



CampbellReith
consulting engineers

Harwood Savin Ltd
Town Planning Consultants

Vahnea Marolda
Investments LLP

Cover Storey
Architects

Solar Study
Vahnea Student Residences
Wilko Store, London Road, Bognor Regis
January 2018

Applicant:

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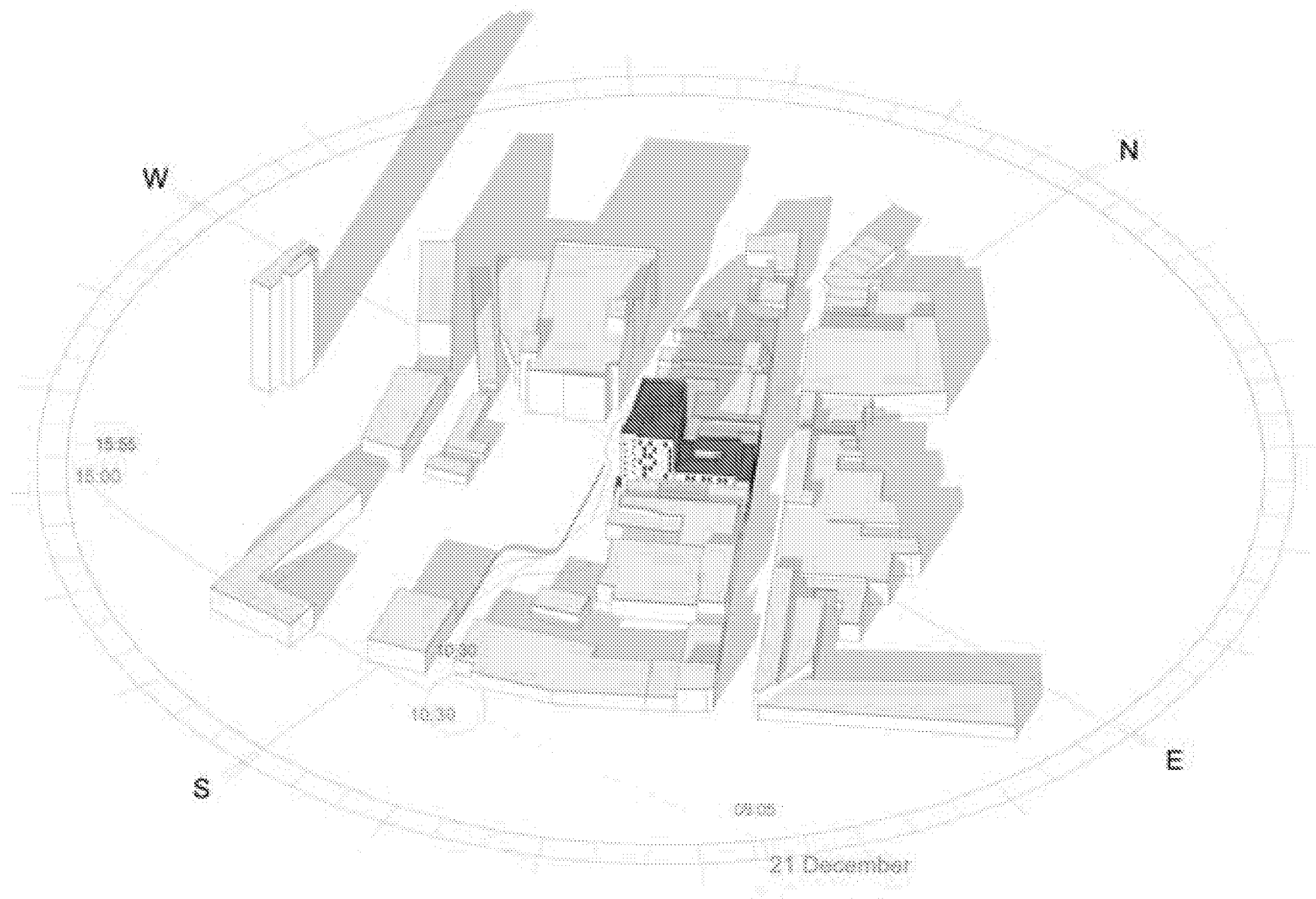
- 1.1 Cover Storey Architects have been instructed by Vahnea Marolda Investments LLP to prepare and submit a Sun Path study to Arun district council in support of the planning application for the development of the existing rooftop of plot 18-20 London Road, Bognor Regis, currently occupied by Wilko retail store for use as student residences.
- 1.2 Through the pre-application stage of the submission (ref: PAA/65/16/), a main concern was the uncertainty of over-shadowing on the existing London Road retail street adjacent to the proposal.
- 1.3 The purpose of this Sun Path study is to identify how the proposed massing would affect adjacent properties and public space. Please note that variations of this study have been utilised throughout the proposal (ref: PAA/65/16/) and findings have altered the development of the proposed design to minimise over-shadowing. This document contains information relevant to the proposal at the time of the planning application.
- 1.4 The methodology used to gather and record information will be through a combination of topographical and ordnance survey data, combined with 3D computer modelling using the software Autodesk Revit with IES Virtual Environment sunlight and location information for Bognor Regis, and represented through a progression of still images at one hour intervals on the summer and winter solstices in 2018, dated June 21st and December 21st respectively.

winter solstice december 21 2.0

2.0 The following images have been produced to demonstrate the shadow cast by the proposed development in the context of surrounding buildings on the date December 21st 2018.

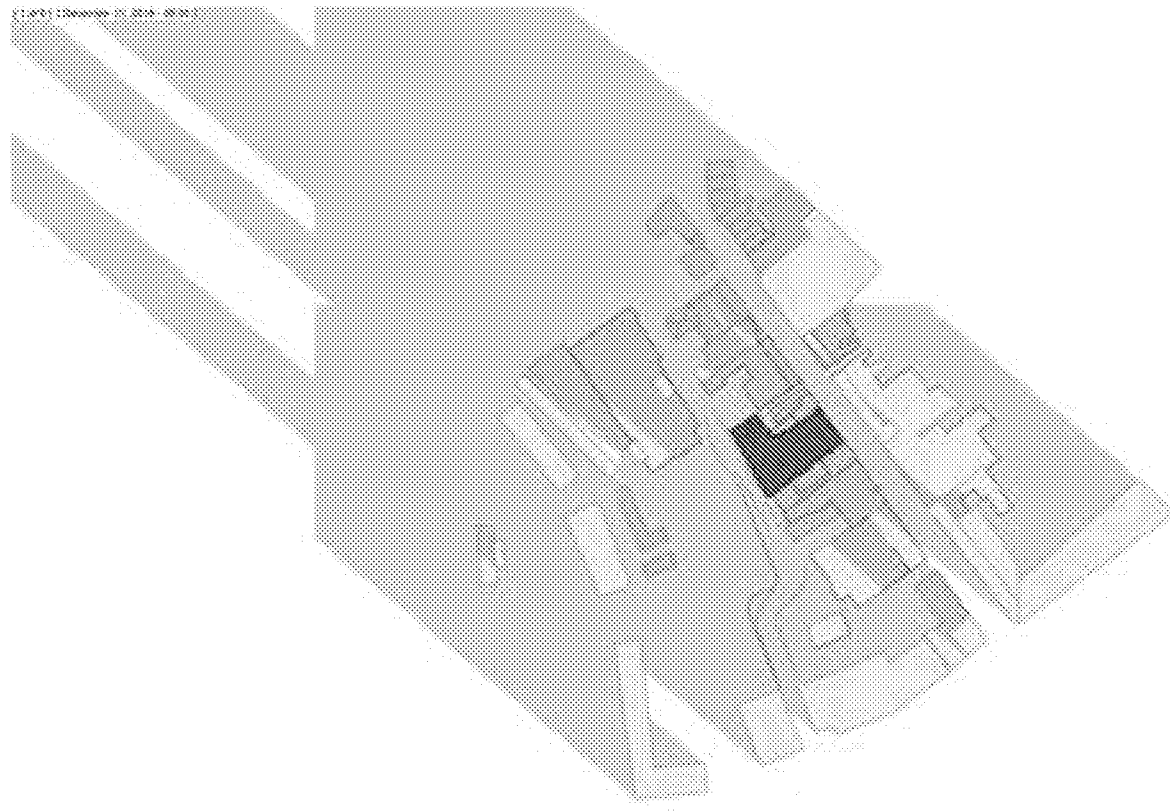
Sunrise will occur at 08:05, and sunset will occur at 15:55. For this a set of nine images have been generated to cover the time between 08:00 and 16:00 at hourly intervals.

Shown opposite is the time 10:30 where the existing retail buildings will begin to over-shadow London Road. It is apparent that by this time, the proposed development will remain casting shadows over adjacent uninhabitable rooftops and partially cast shadow over the street to the North of Macari's cafe, on the corner of Bedford Street. This image aides to help orient the reader and the following images demonstrate that **no further over-shadowing will occur on the London Road retail street during the latter months of the year following the proposed development.**



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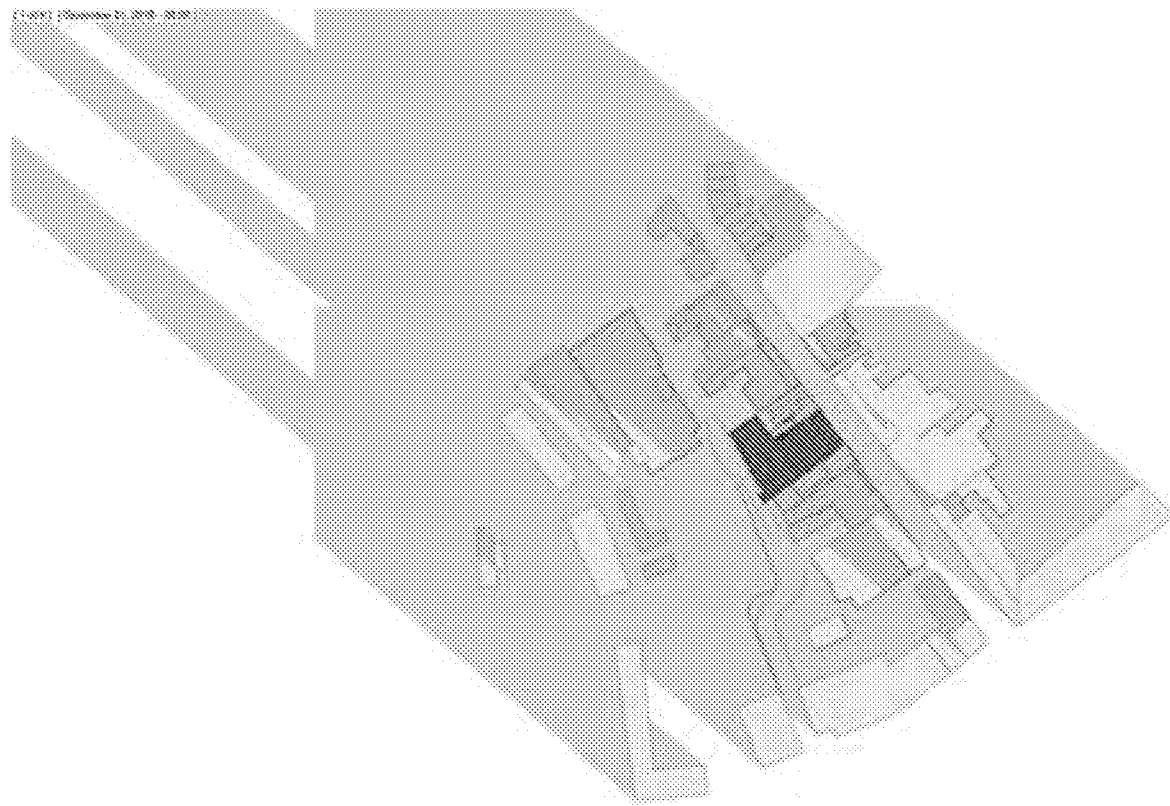
Solar Study
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2.1 21 December 2018
08:00

Sunrise takes place at 08:05, much of the local public space remains in shadow due to the low angle sun.

Existing

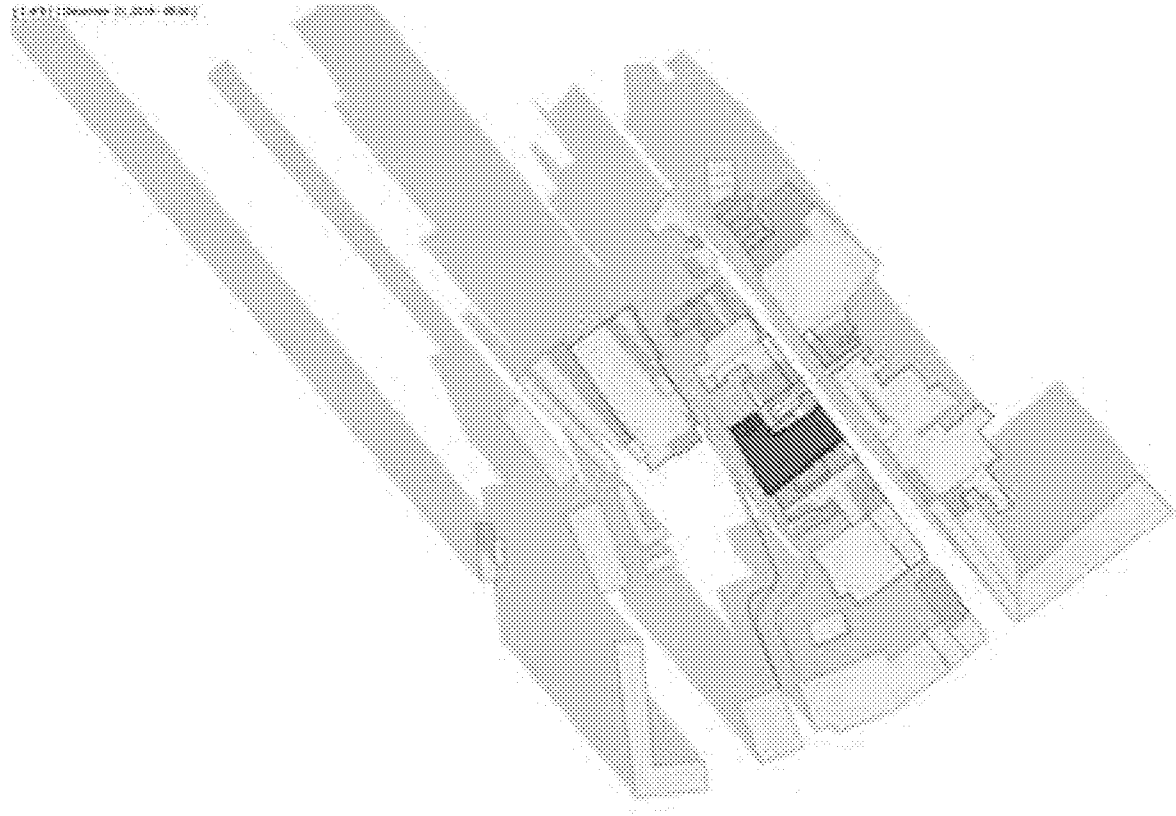


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2.1-010 | 21 December 2018 | 09:00

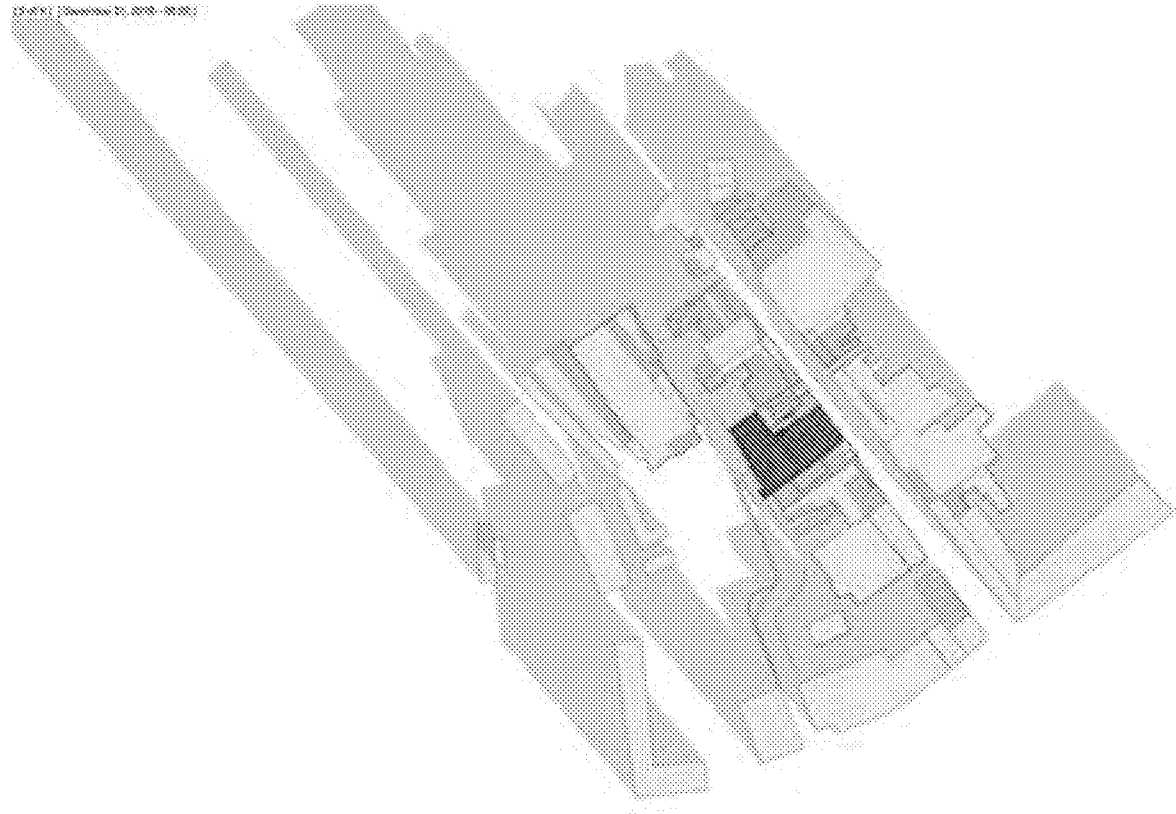


2.2 21 December 2018
09:00

London Road begins to open up with light and the majority of Bedford Street car park is now in sunlight.

Existing

2.2-010 | 21 December 2018 | 09:00

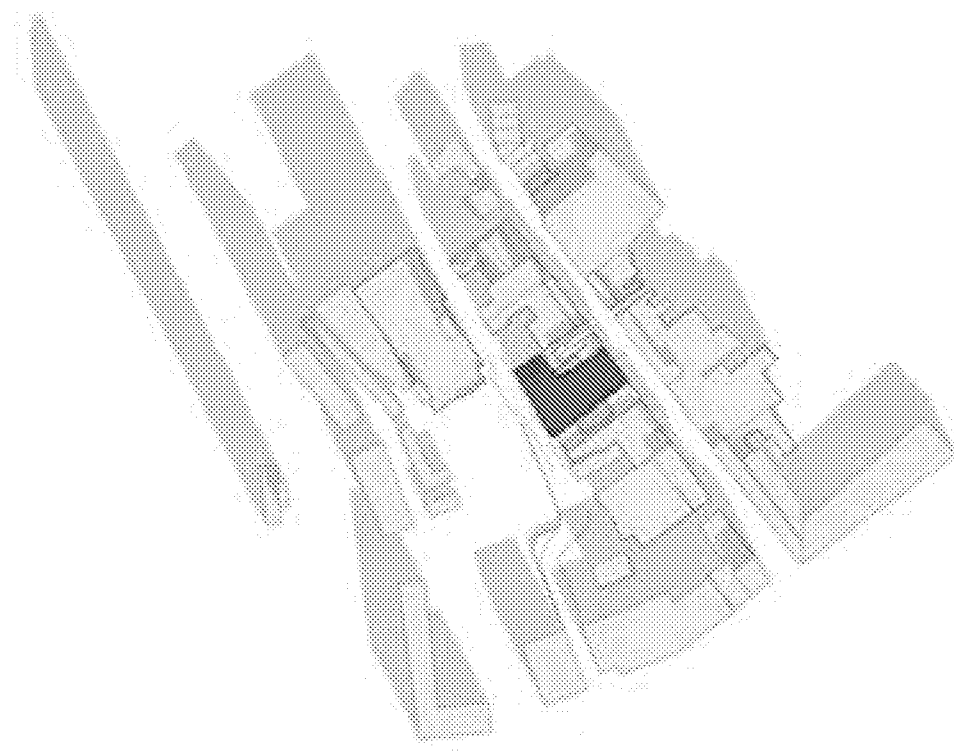


Proposed Development

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A r c h i t e c t s

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[1 of 5] [December 20, 2018 - 10:00]

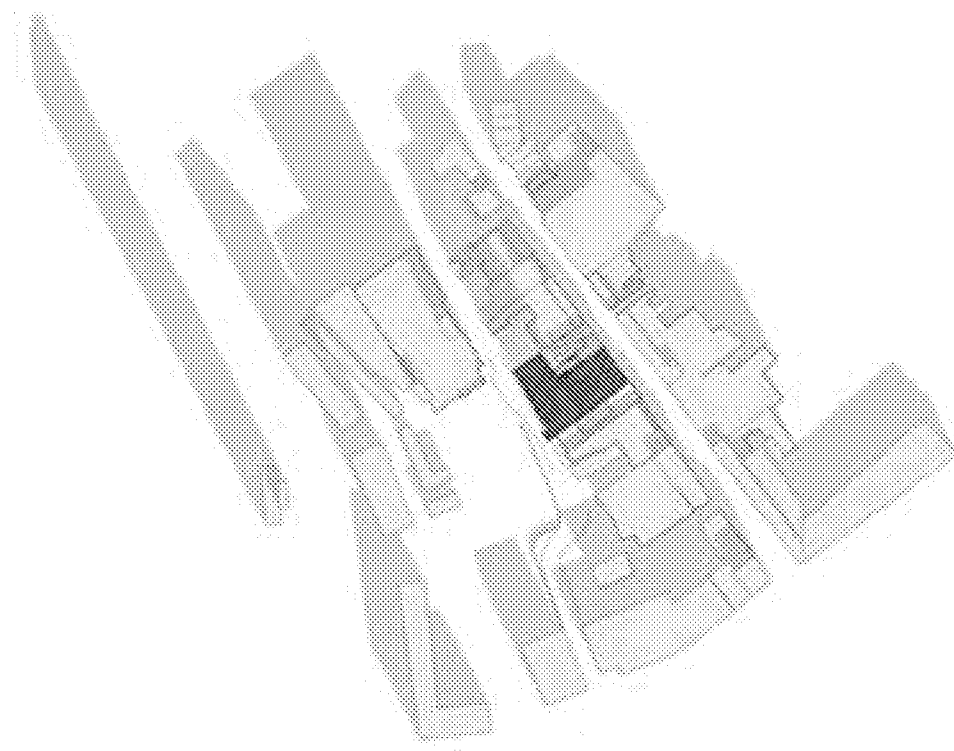


Existing

2.3 21 December 2018
10:00

Bedford Street and the space alongside Morrison's entrance gains morning light for a short time before becoming cast in shadow for the remainder of the day. The existing retail units begin to over-shadow London Road retail street.

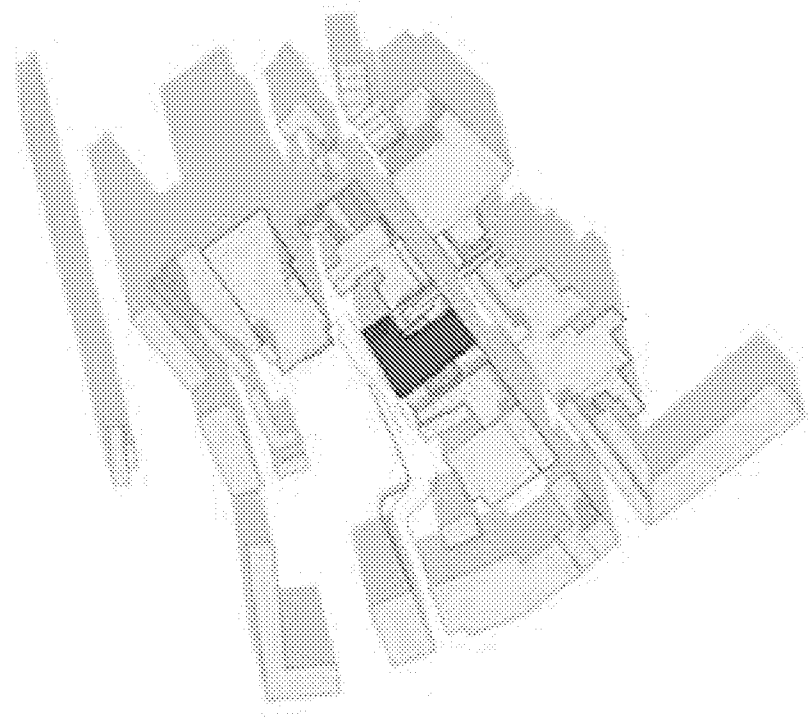
[2 of 5] [December 20, 2018 - 10:00]



Proposed Development

Cover Storey
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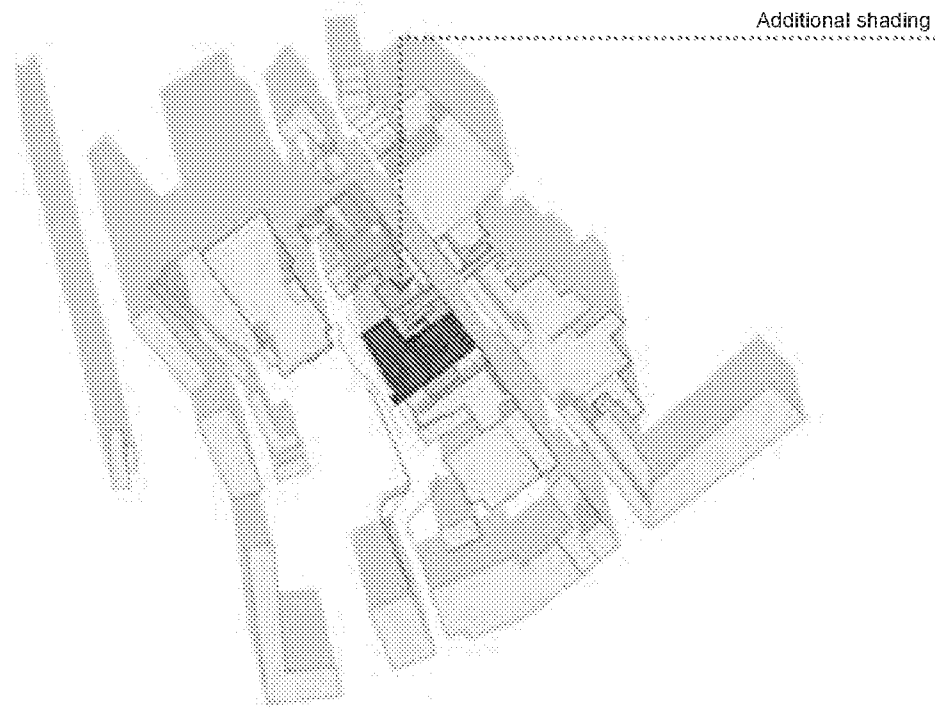
Solar Study
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Existing

2.4 21 December 2018
11:00

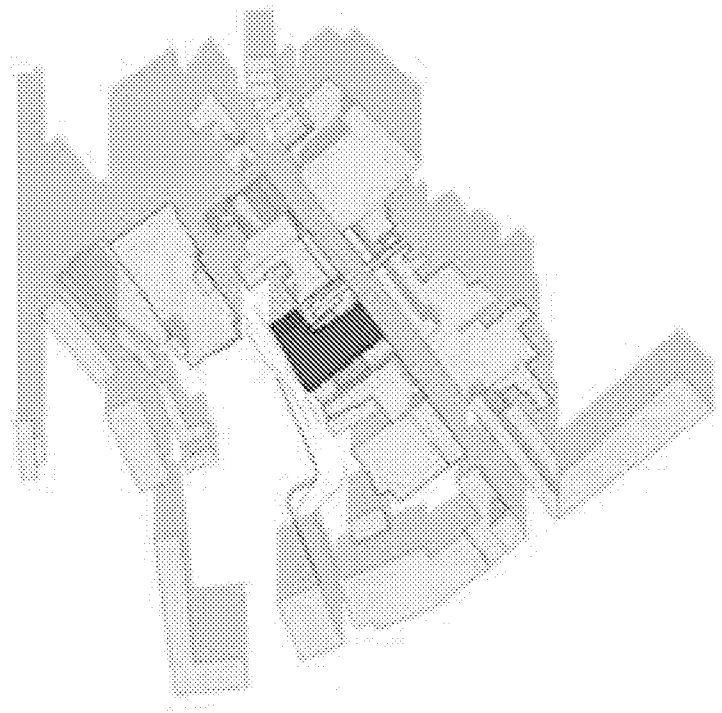
Morrison's now casts the top of Bedford Street in shadow. The proposed development casts shadow over the adjacent service yard to its North, the remainder of the shadow is cast on the rooftops of adjacent properties, as of yet is not cast onto London Road.



Proposed Development

Cover Storey
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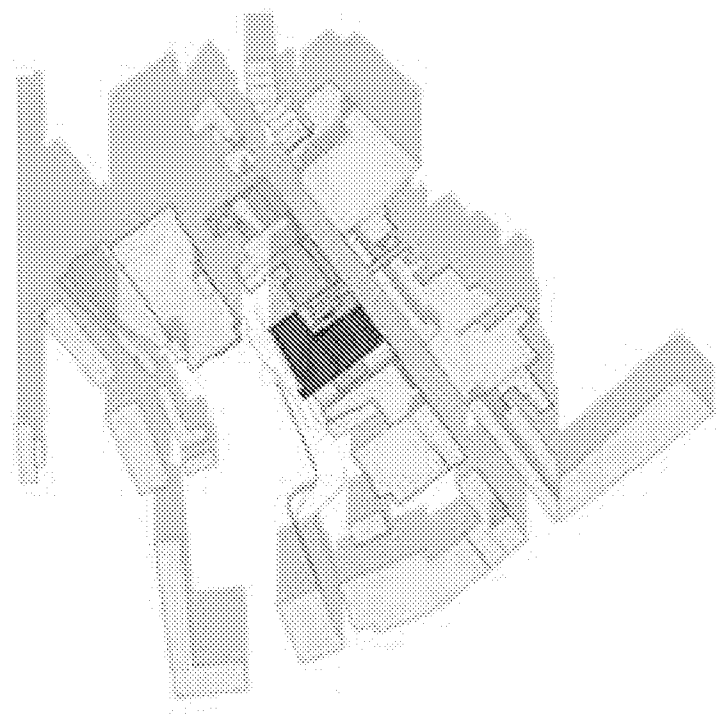
Solar Study
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Existing

2.5 21 December 2018
12:00

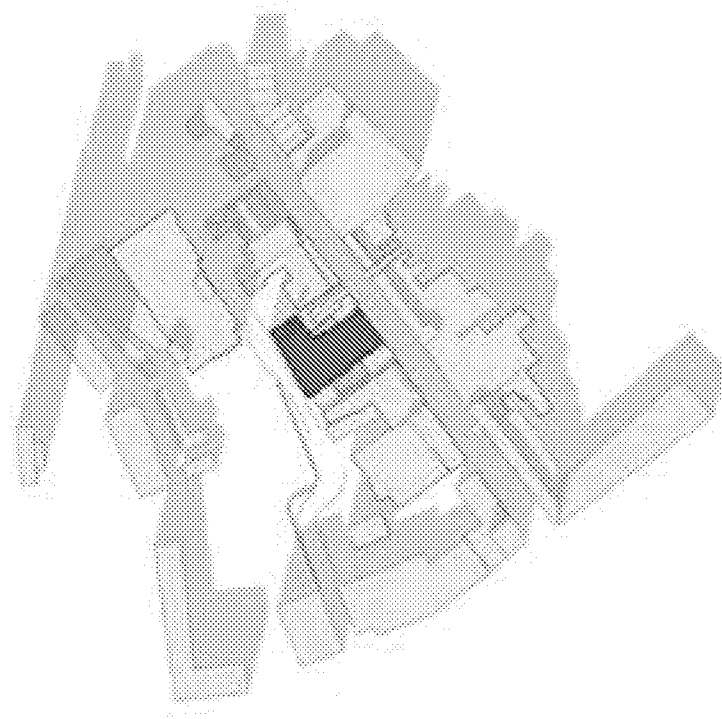
London Road retail street is almost entirely in shade from the existing two to three storey retail units. The Proposed Development casts a shadow which is indiscernible from the existing shadows which already over-shadows London Road and thus the proposal does not over-shadow any previously unshaded areas.



Proposed Development

Cover Storey
A r c h i t e c t s

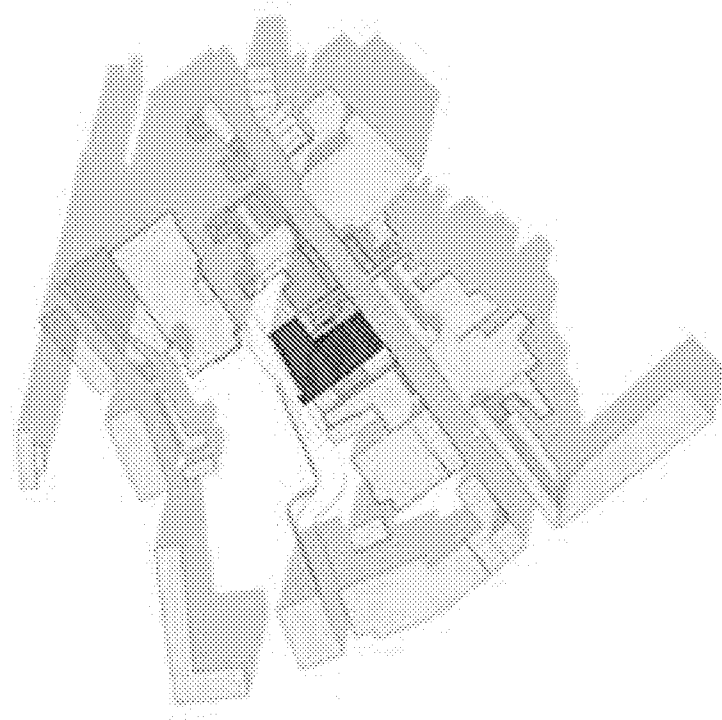
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Existing

2.6 21 December 2018
13:00

The Proposed Development now casts shadows up onto the rooftops of buildings opposite.



Proposed Development

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2.7 21 December 2018
14:00

The shadows cast slightly further on to rooftops. Only Bedford Street car park remains in daylight.

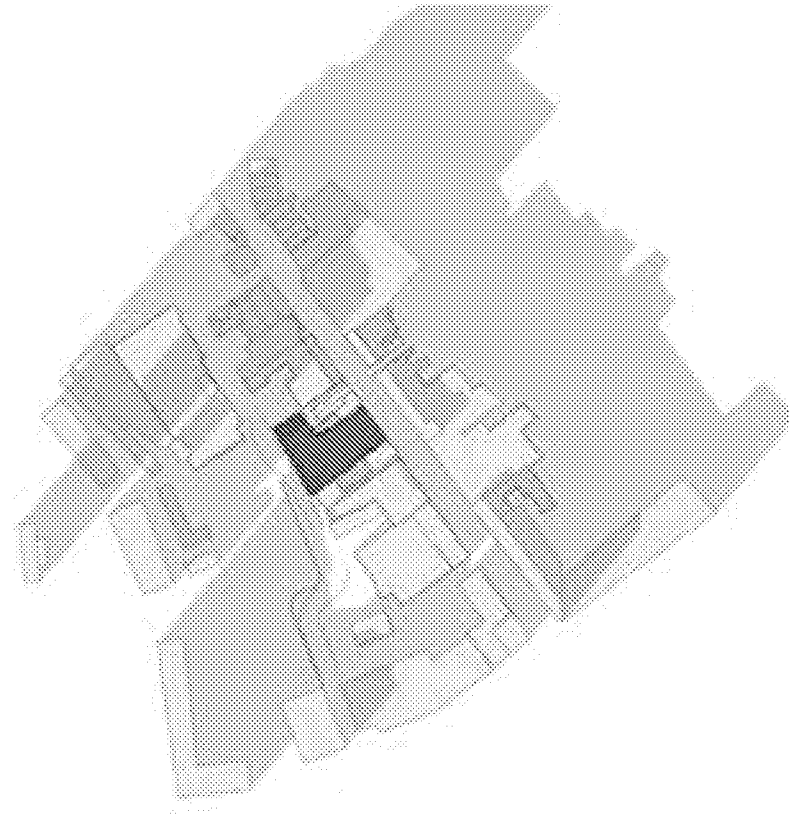
Existing



Proposed Development

Cover Storey
A r c h i t e c t s

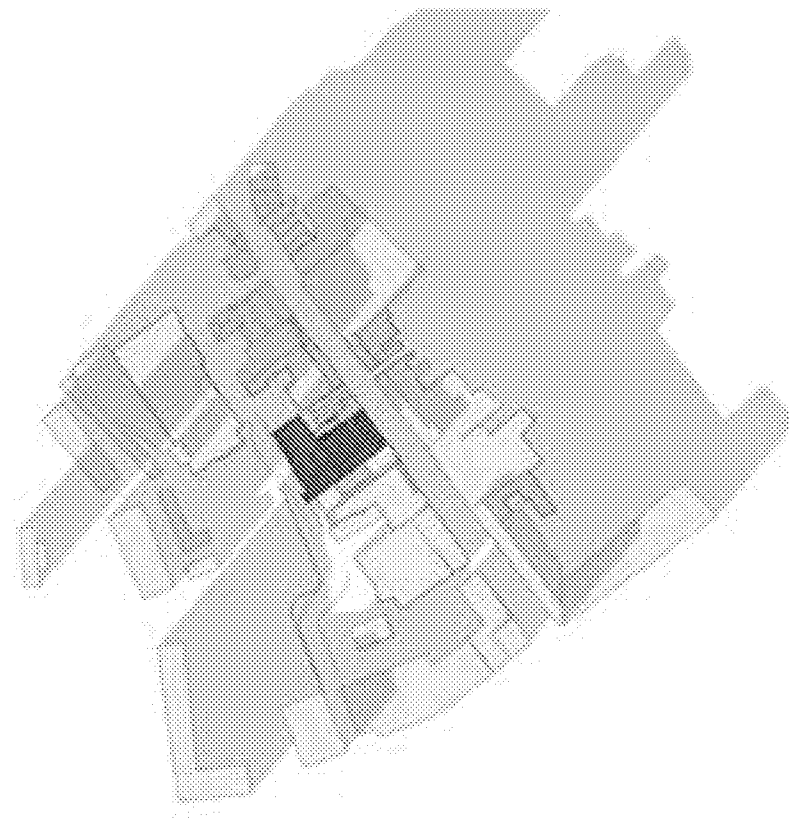
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Existing

2.8 21 December 2018
15:00

As the day nears sunset most public space is cast into shadow by existing buildings including the service road to the rear of the opposing buildings. The Proposed Development casts shadows over the rooftops of the opposing buildings.



Proposed Development

Cover Storey
Architects

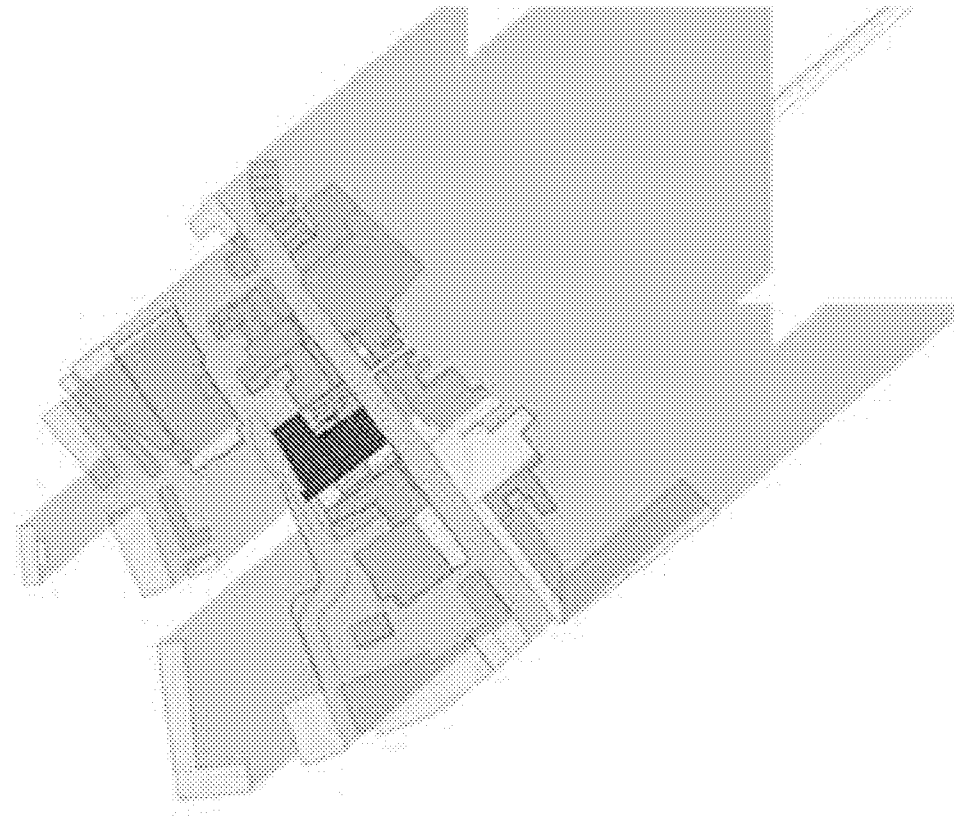
Solar Study
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Existing

2.9 21 December 2018
16:00

The sun sets at 15:55 with only the tallest buildings receiving the last of the sunlight.



Proposed Development

Cover Storey
A r c h i t e c t s

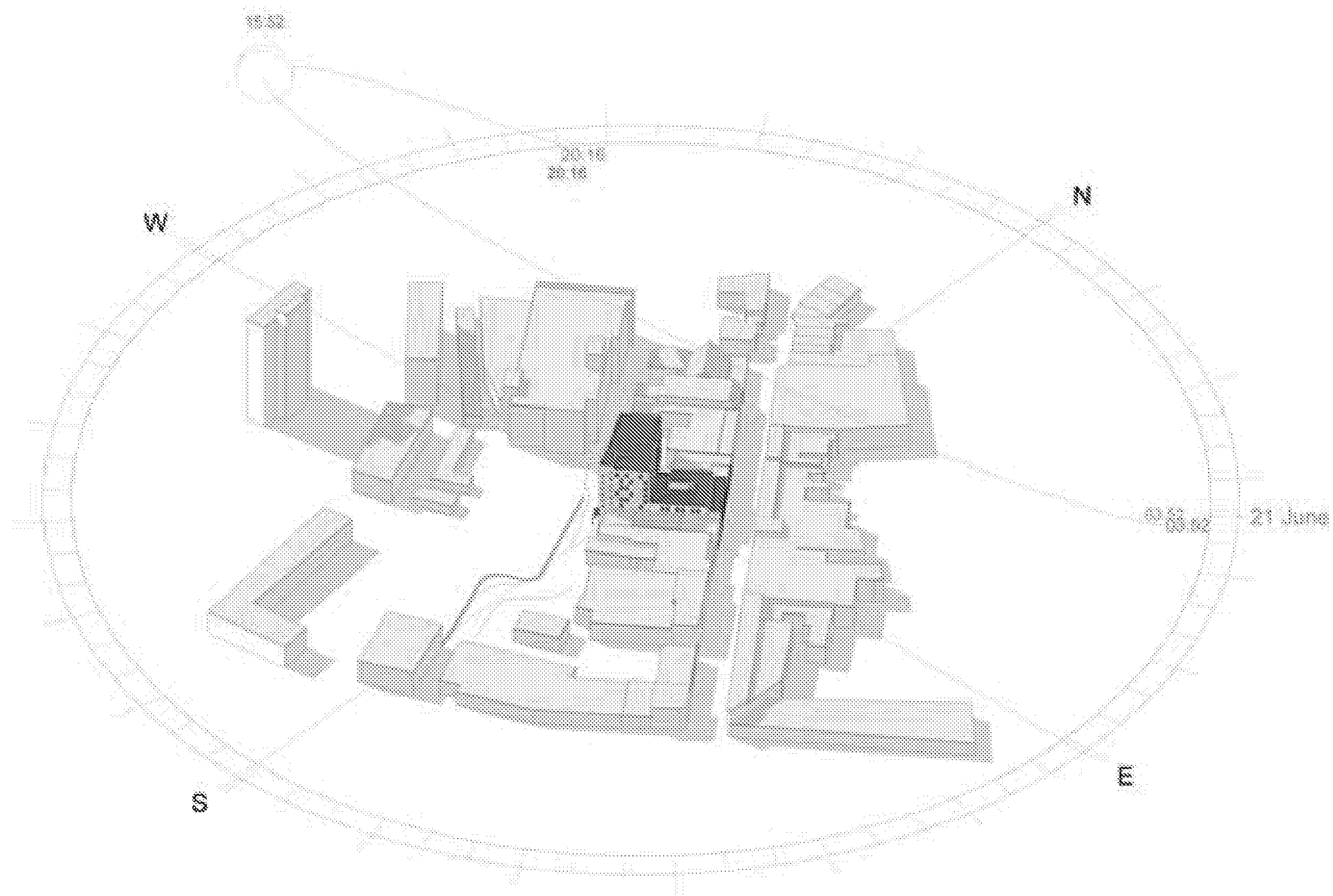
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summer solstice june 21 3.0

3.0 The following images have been produced to demonstrate the shadow cast by the proposed development on the date June 21st 2018.

Sunrise will occur at 03:52, and sunset will occur at 20:16. For this a set of seventeen images have been generated to cover the time between 04:00 and 20:00 at hourly intervals.

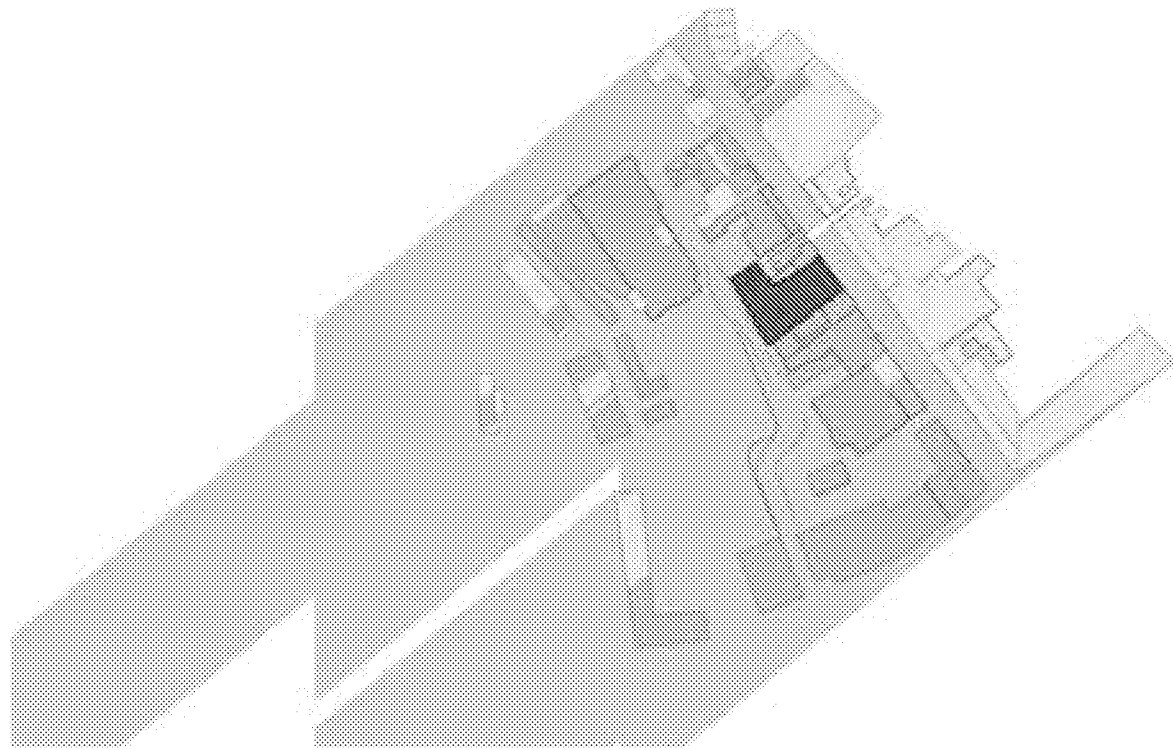
Shown opposite is the time 15:52 where the existing retail buildings will begin to over-shadow London Road. It is apparent that by this time, the proposed development will remain casting shadows over the adjoining uninhabited rooftop rather than London Road. This image aides to help orient the reader and the following images demonstrate that **no further over-shadowing will occur on the London Road retail street during the summer months of the year following the Proposed Development.**



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21-06-2018 04:00

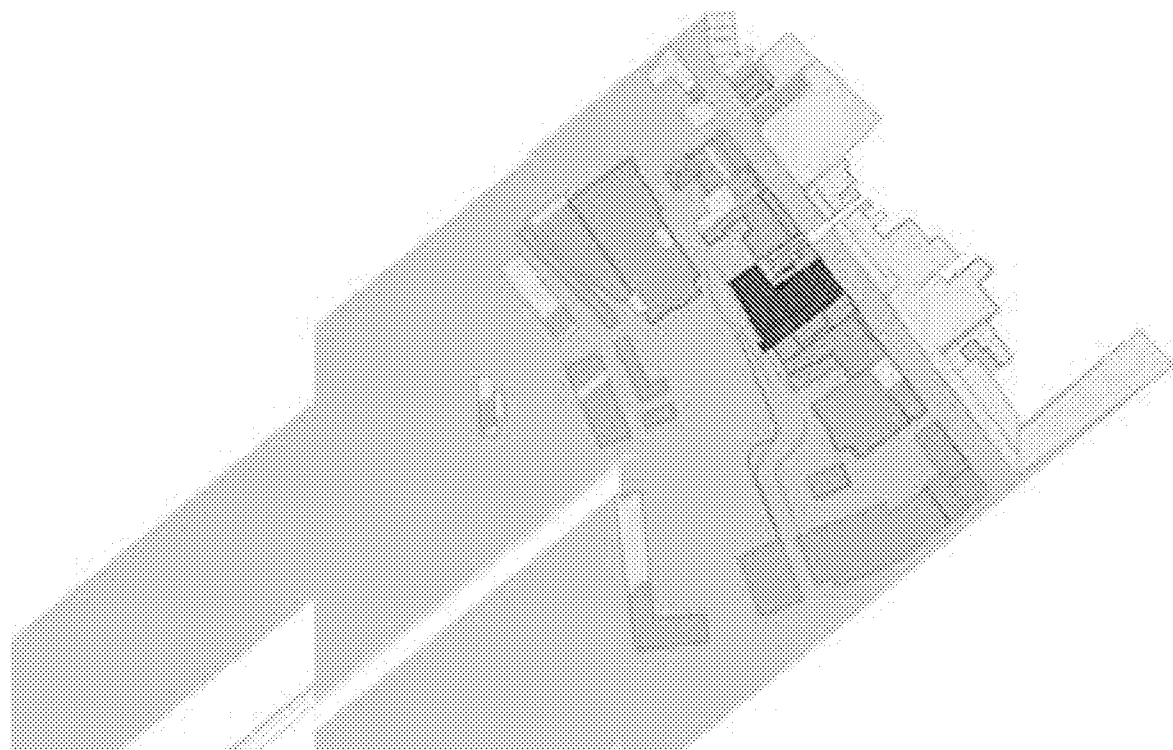


Existing

3.1 21 June 2018
04:00

The sun rises at at 03:52.

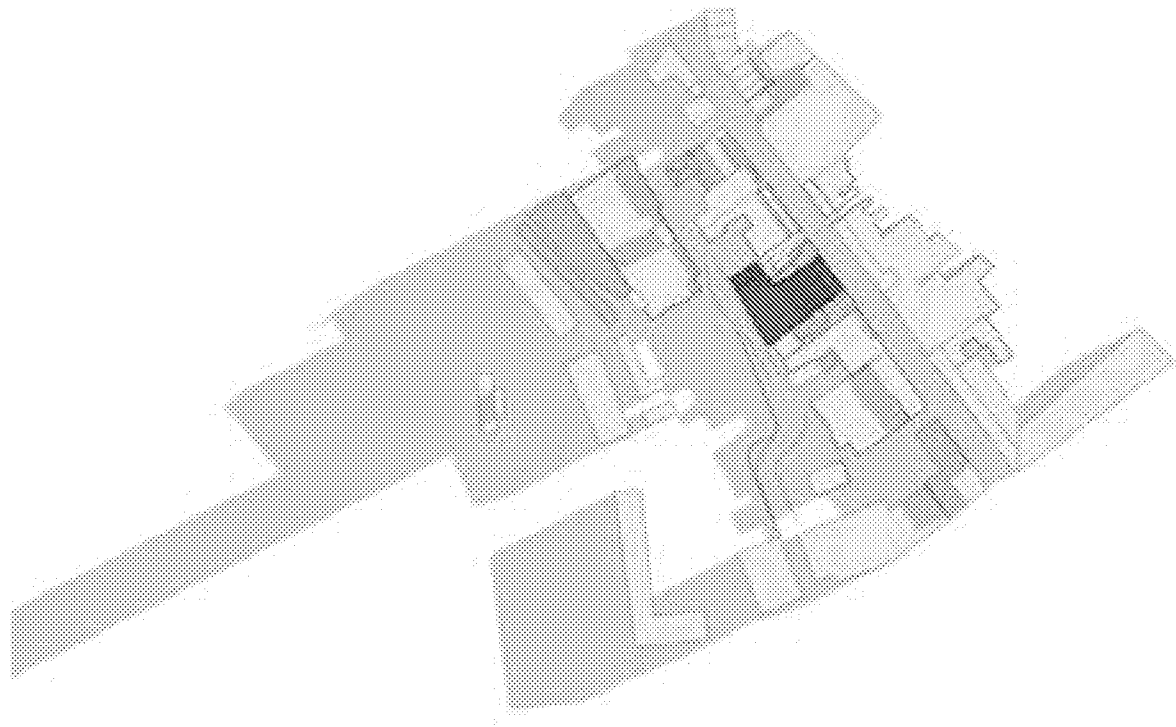
21-06-2018 04:00



Proposed Development

Cover Storey
A r c h i t e c t s

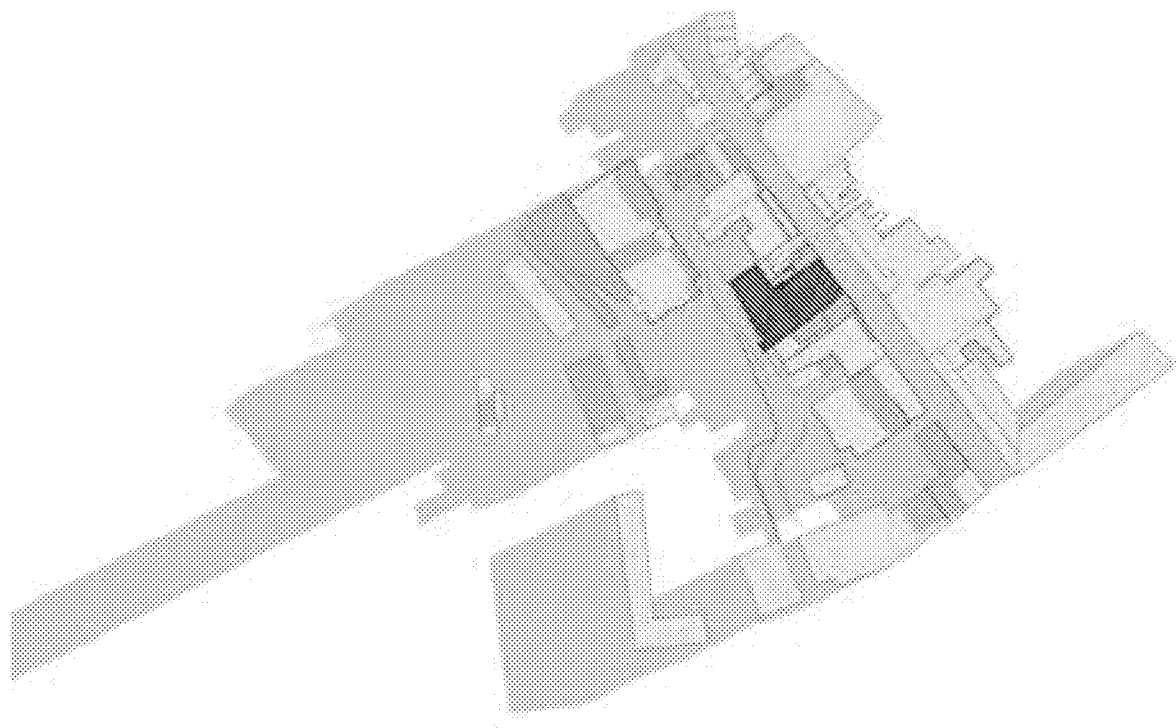
Solar Study
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Existing

3.2 21 June 2018
05:00

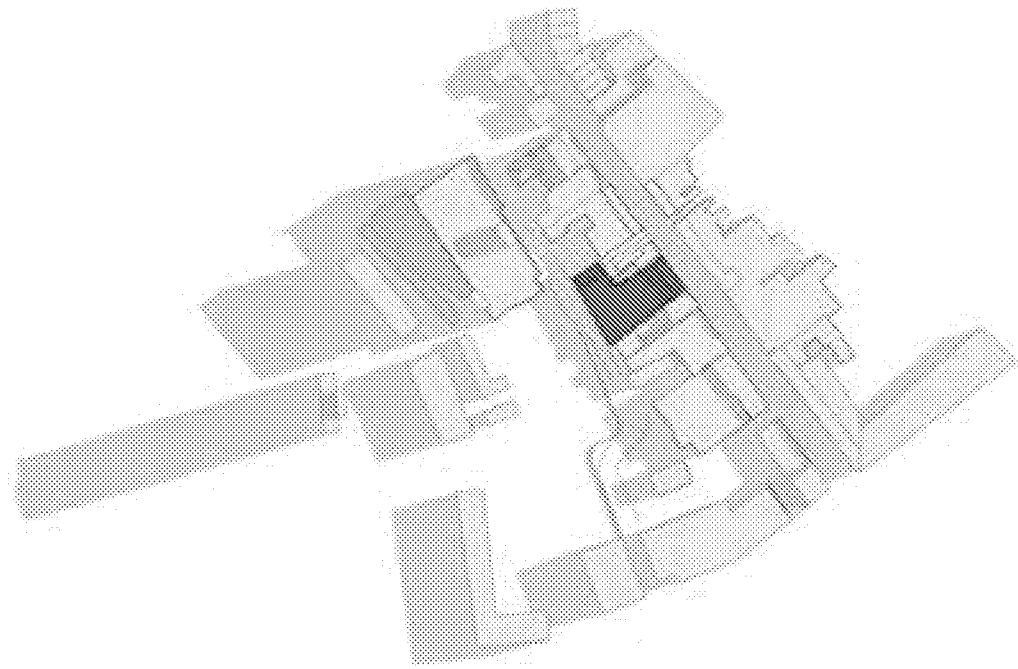
Bedford Street car park begins to open up to daylight.



Proposed Development

Cover Storey
A r c h i t e c t s

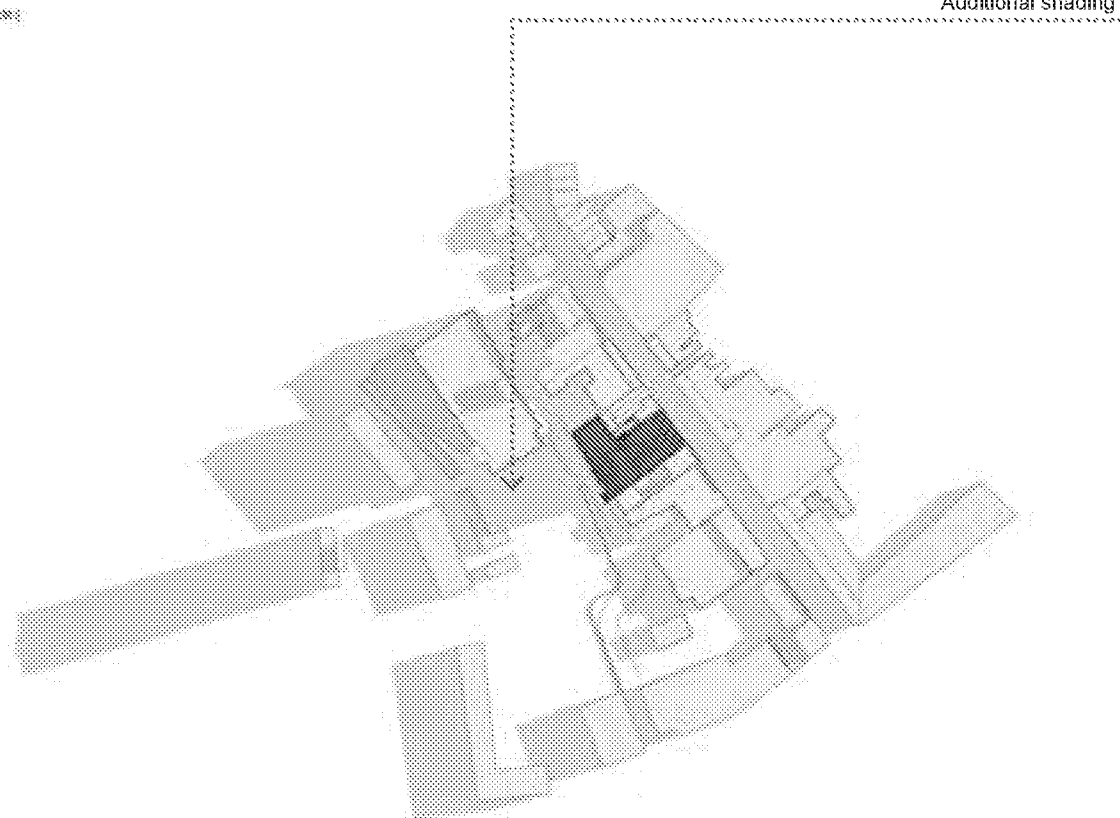
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Existing

3.3 21 June 2018
06:00

The Proposed Development casts shadow over a small area of the Bedford Street car park.

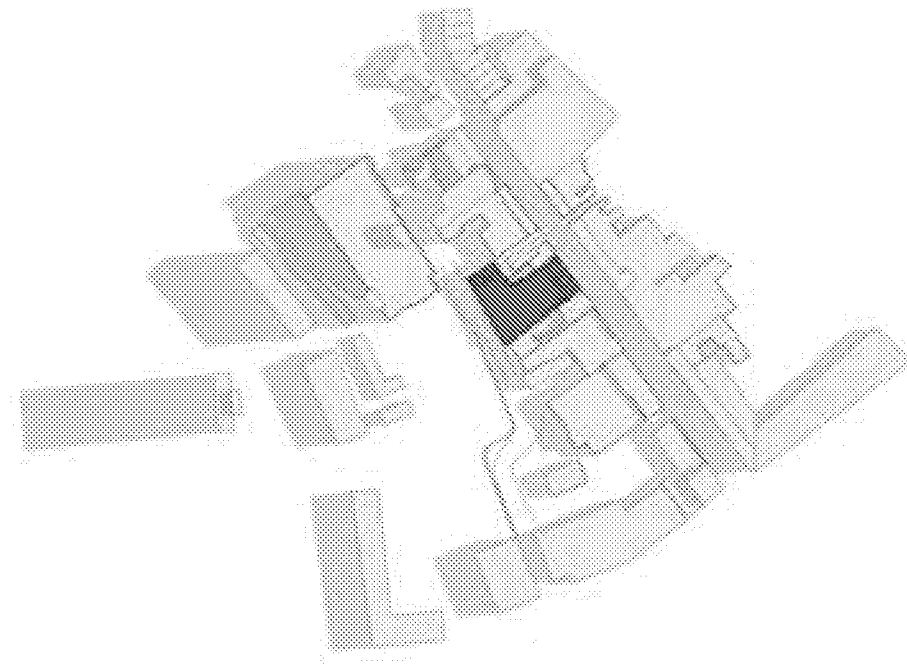


Additional shading

Proposed Development

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Architects

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Existing

3.4 21 June 2018
07:00

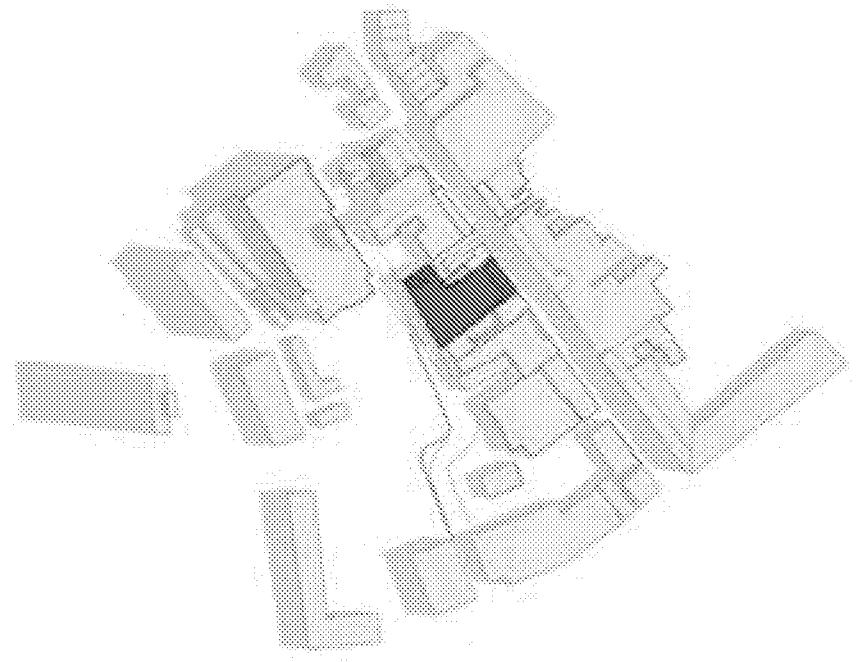
An area of Morrison's lower storey southern elevation is cast in shadow by the Proposed Development. Bedford Street and the adjacent service entrances are cast in shadow.



Proposed Development

Cover Storey
A r c h i t e c t s

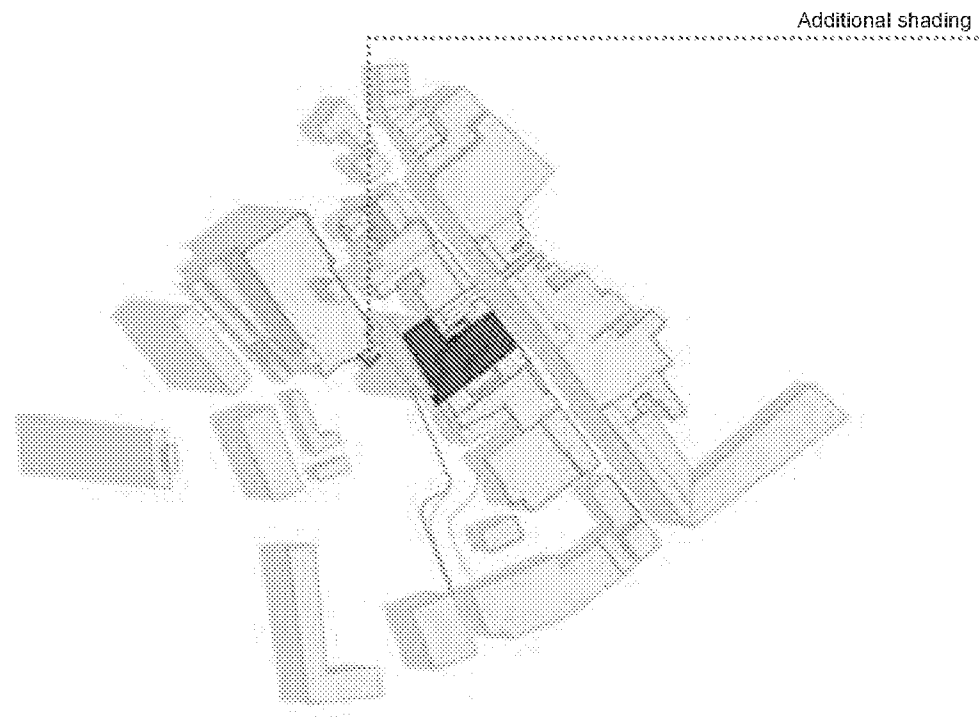
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3.5 21 June 2018
08:00

A small area of Bedford Street remains in shadow.

Existing

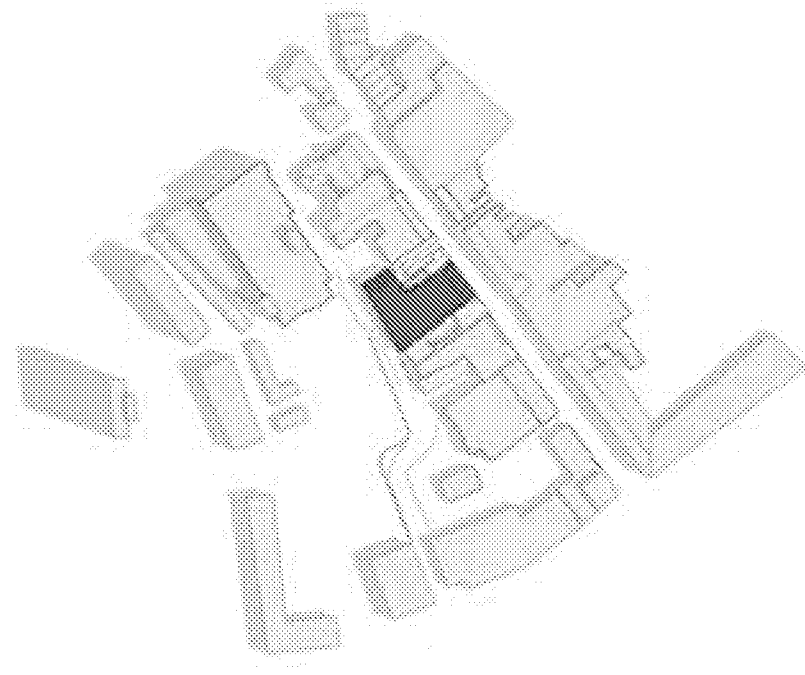


Additional shading

Proposed Development

Cover Storey
Architects

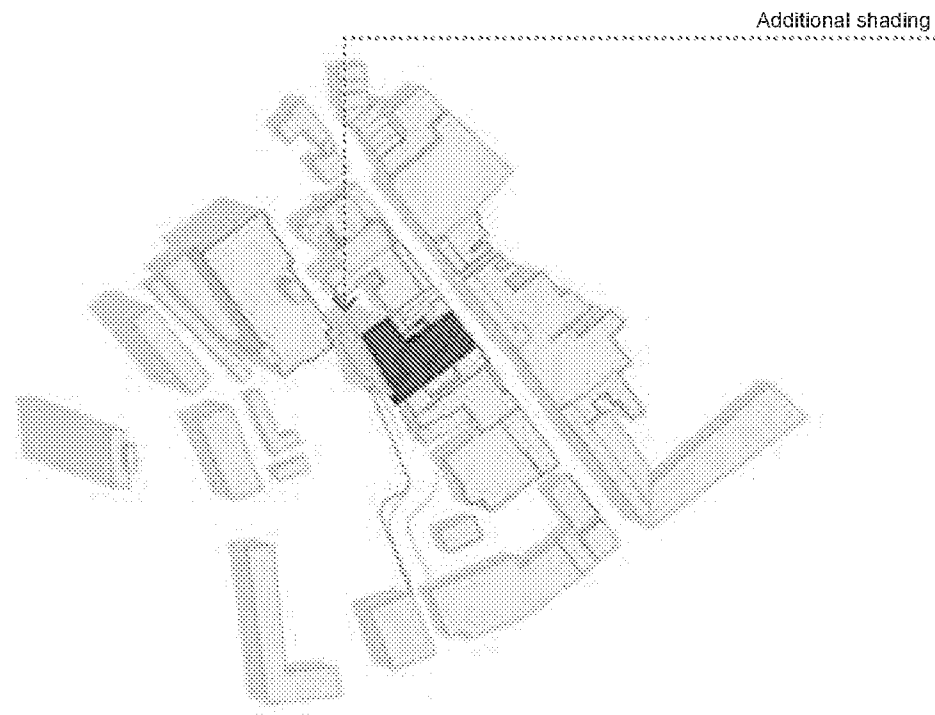
Solar Study
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Existing

3.6 21 June 2018
09:00

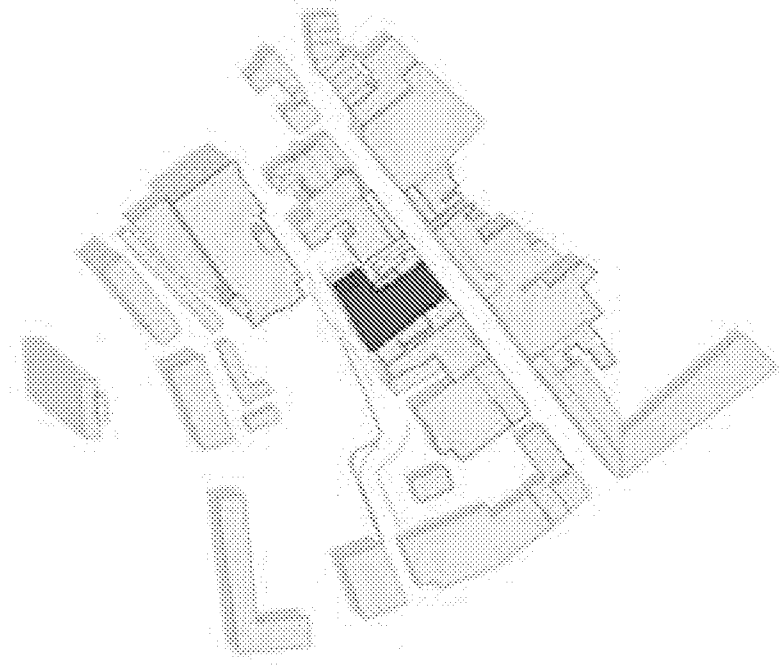
The shadow cast by the Proposed Development begins to open up light to the area adjacent to Morrison's.



Proposed Development

Cover Storey
A r c h i t e c t s

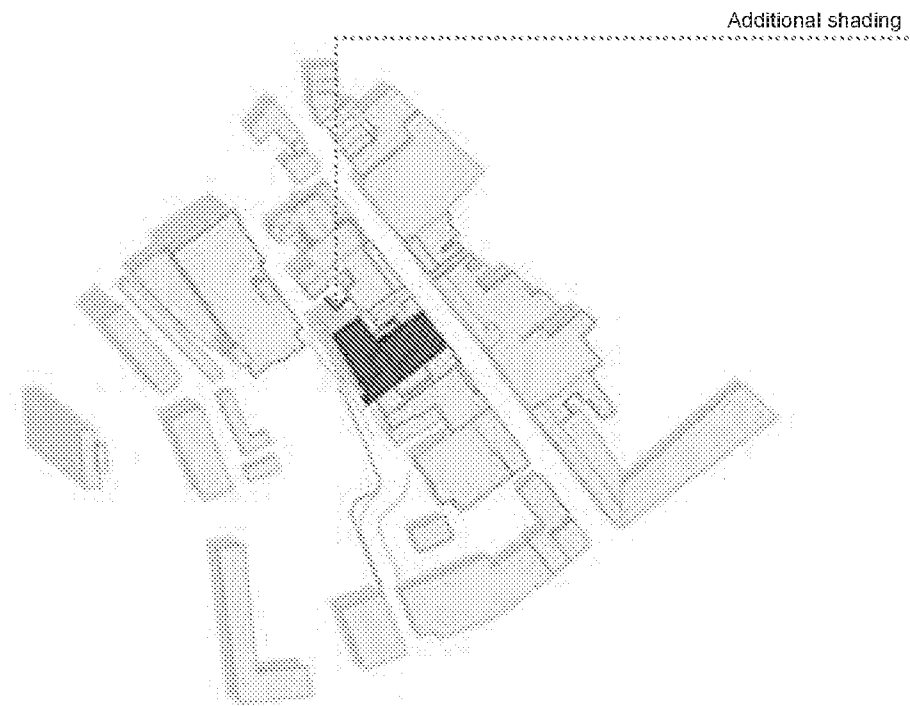
Solar Study
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Existing

3.7 21 June 2018
10:00

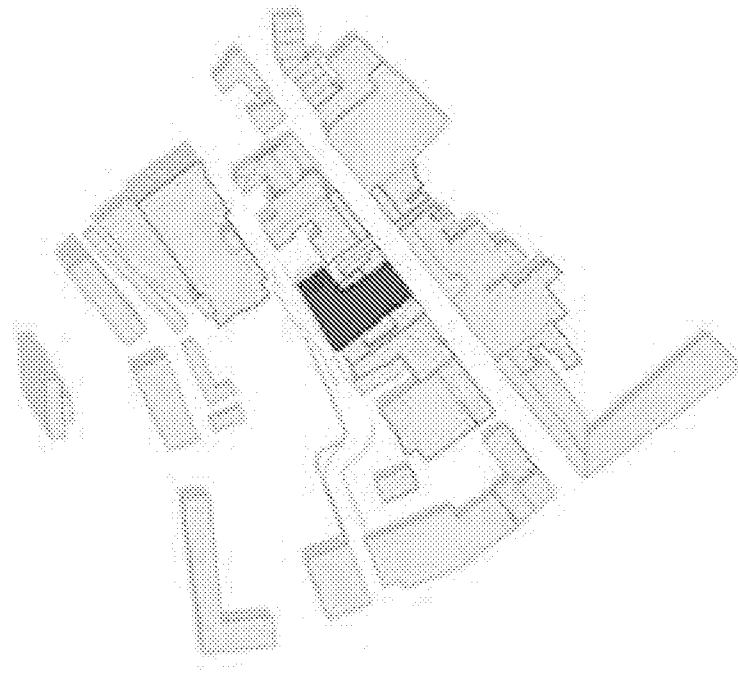
Most of the shadow cast by the Proposed Development now falls into the adjacent service yard.



Proposed Development

Cover Storey
A r c h i t e c t s

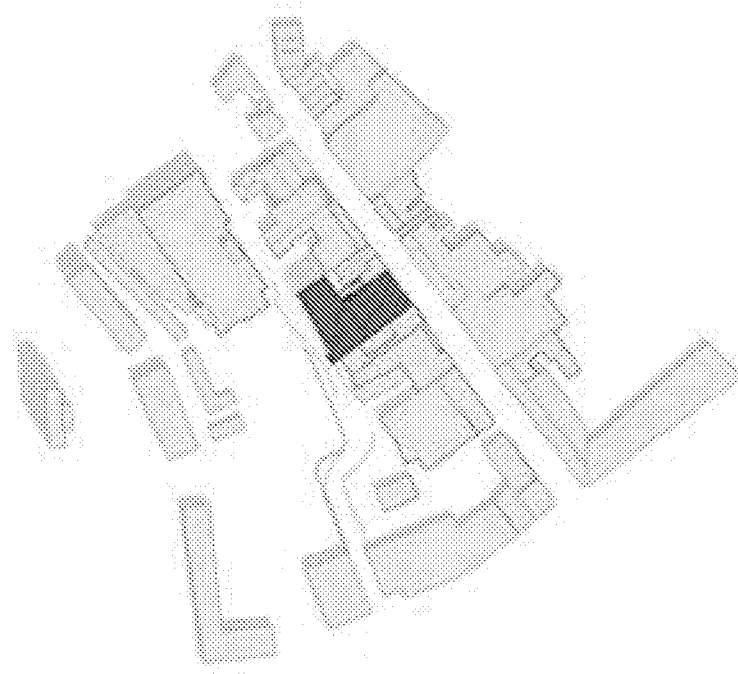
Solar Study
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Existing

3.8 21 June 2018
11:00

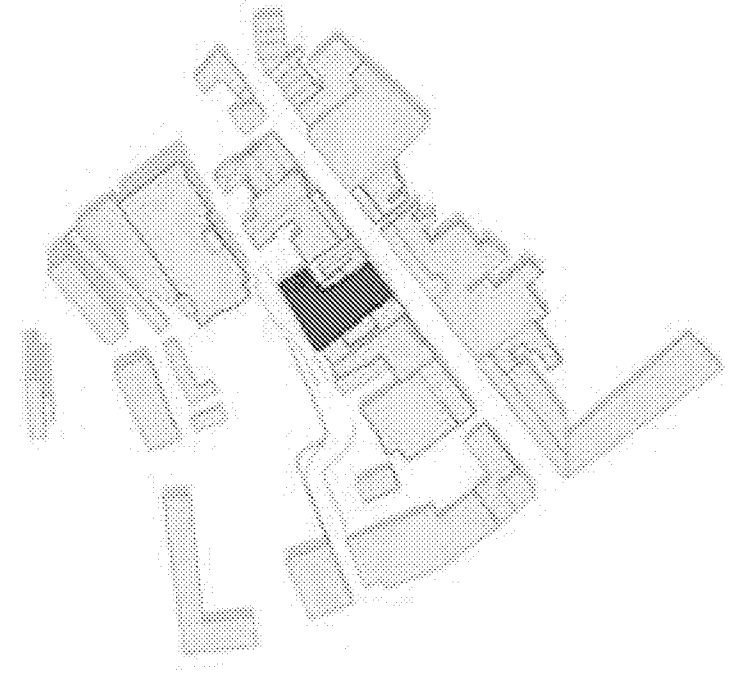
The Proposed Development now casts no shadow onto the public space.



Proposed Development

Cover Storey
A r c h i t e c t s

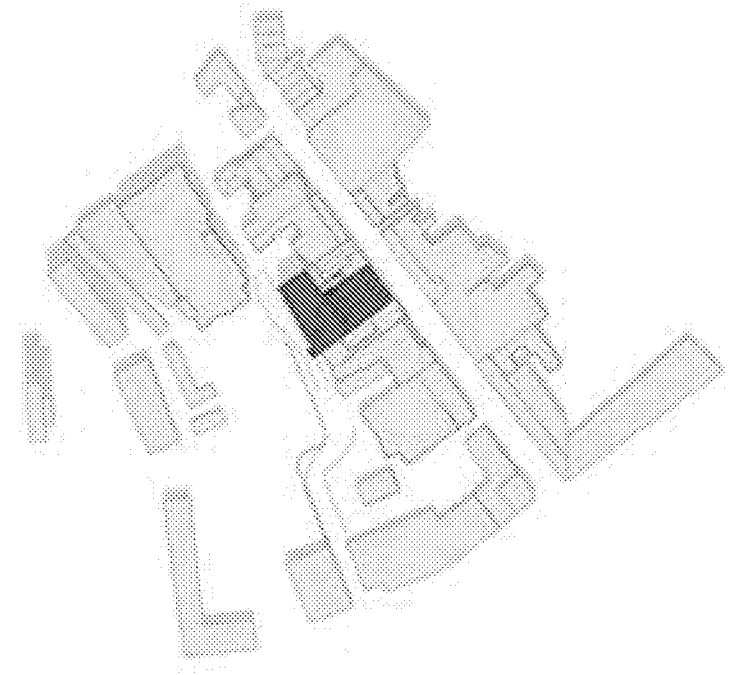
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Existing

3.9 21 June 2018
12:00

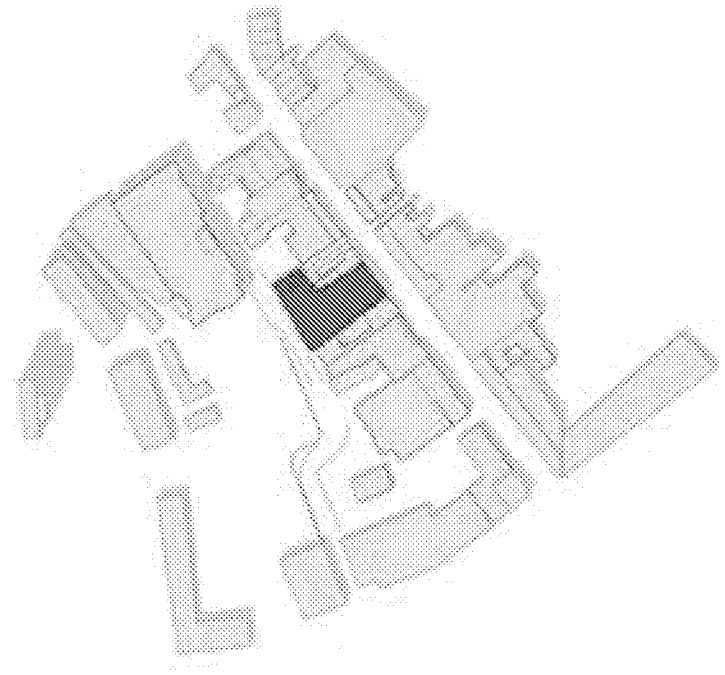
The area immediately North is cast in shadow.



Proposed Development

Cover Storey
A r c h i t e c t s

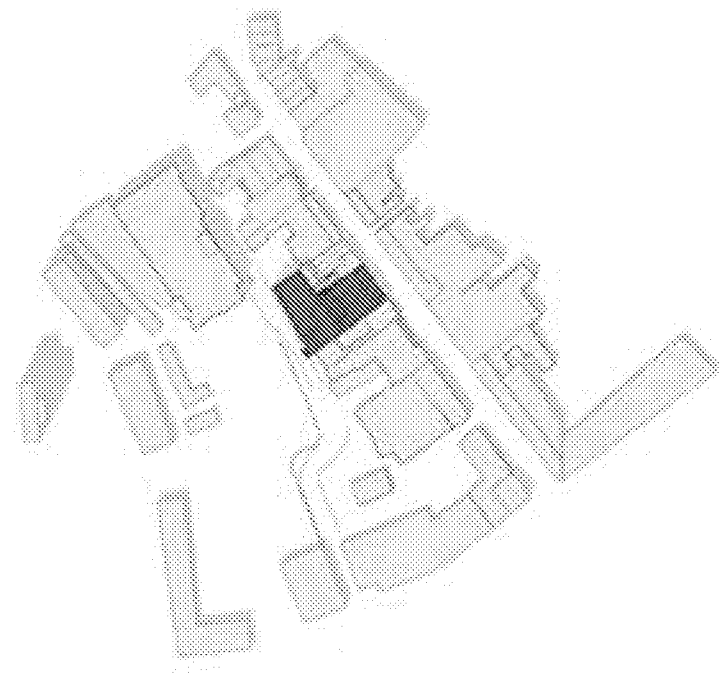
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3.10 21 June 2018
13:00

The fire escape to the neighbouring property is cast in shadow. Existing buildings begin to over-shadow the London Road retail street.

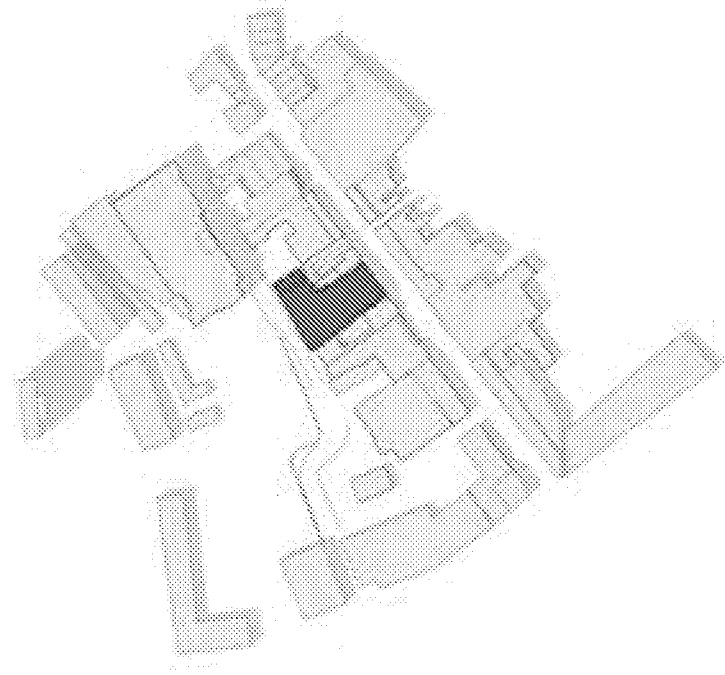
Existing



Proposed Development

Cover Storey
A r c h i t e c t s

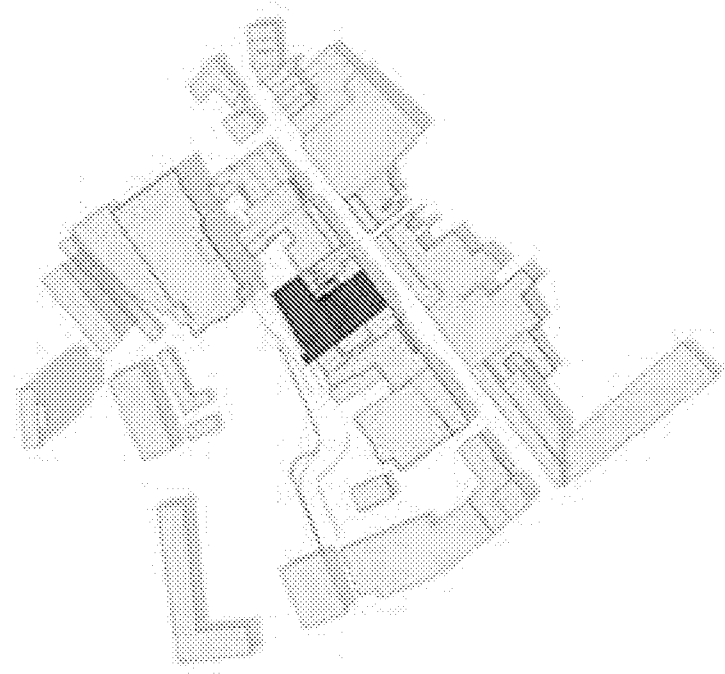
Solar Study
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Existing

3.11 21 June 2018
14:00

The lower adjacent rooftops begin to get cast in shadow.



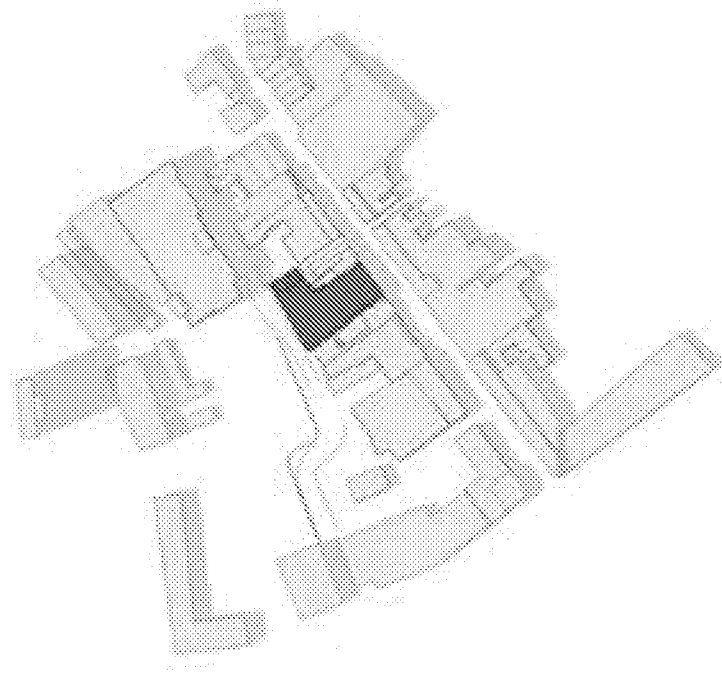
Proposed Development

Cover Storey
A r c h i t e c t s

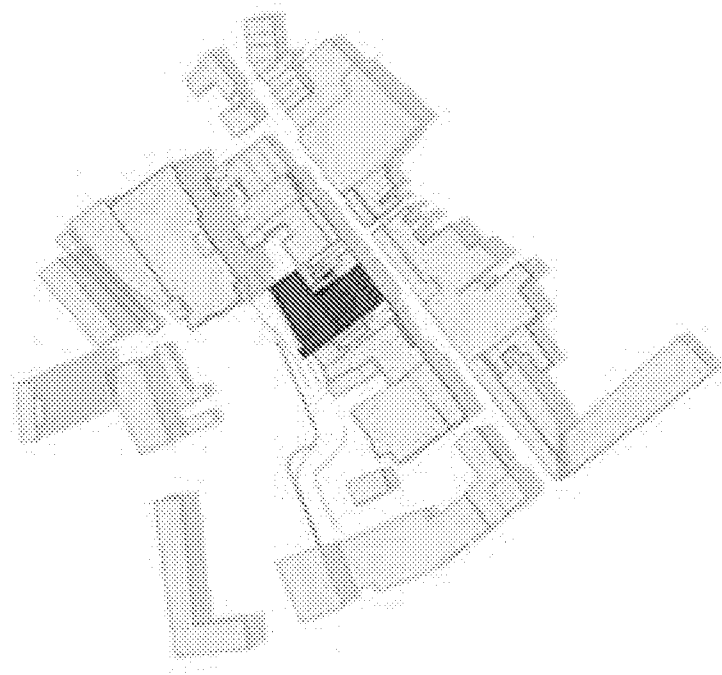
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3.12 21 June 2018
15:00

The Proposed Development now shades its own courtyard.



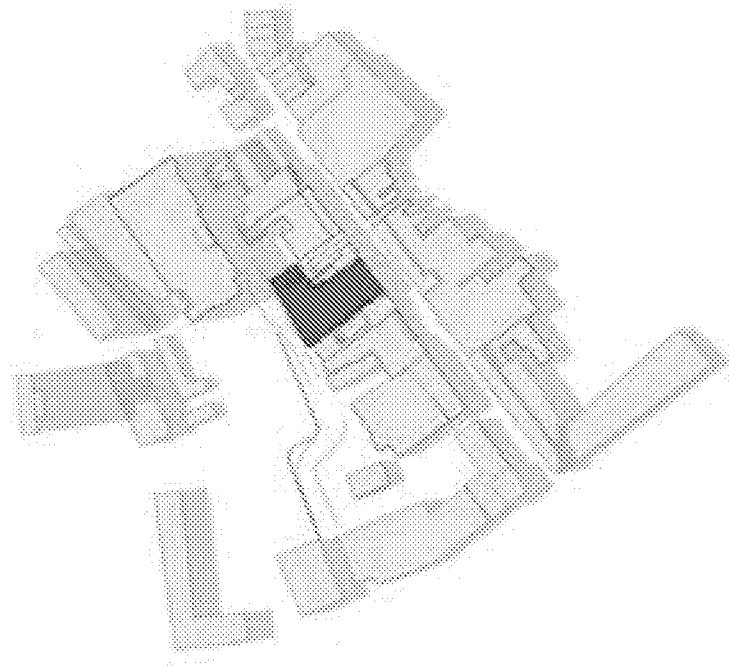
Existing



Proposed Development

Cover Storey
A r c h i t e c t s

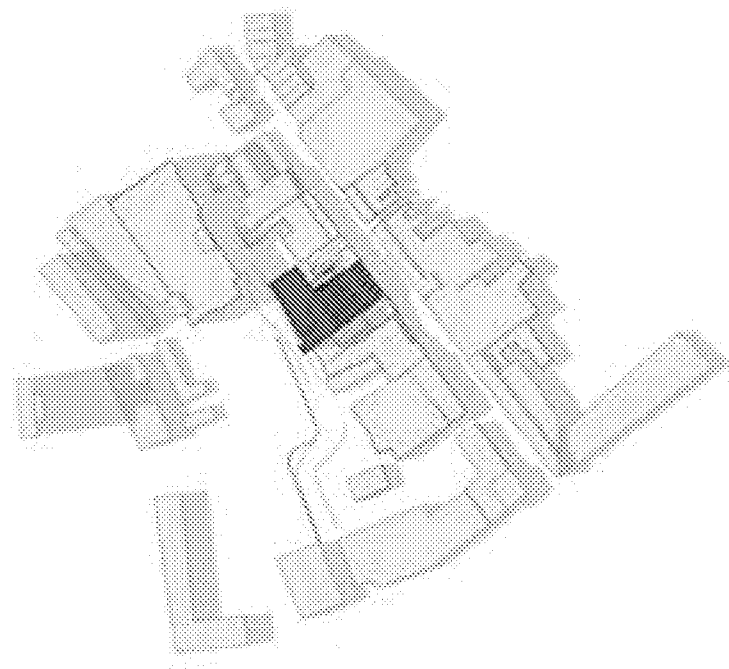
Solar Study
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Existing

3.13 21 June 2018
16:00

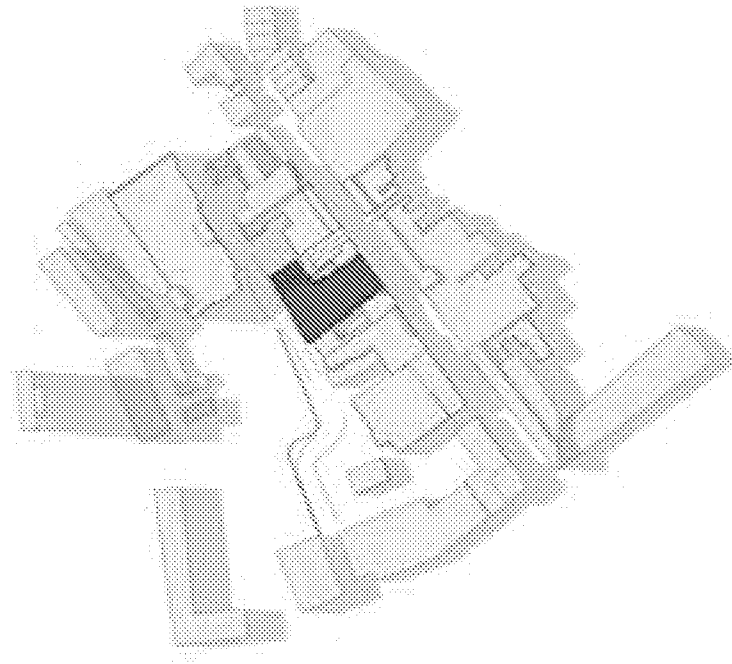
Existing buildings shade most of London Road. The shadow cast by the proposed development does not add to this.



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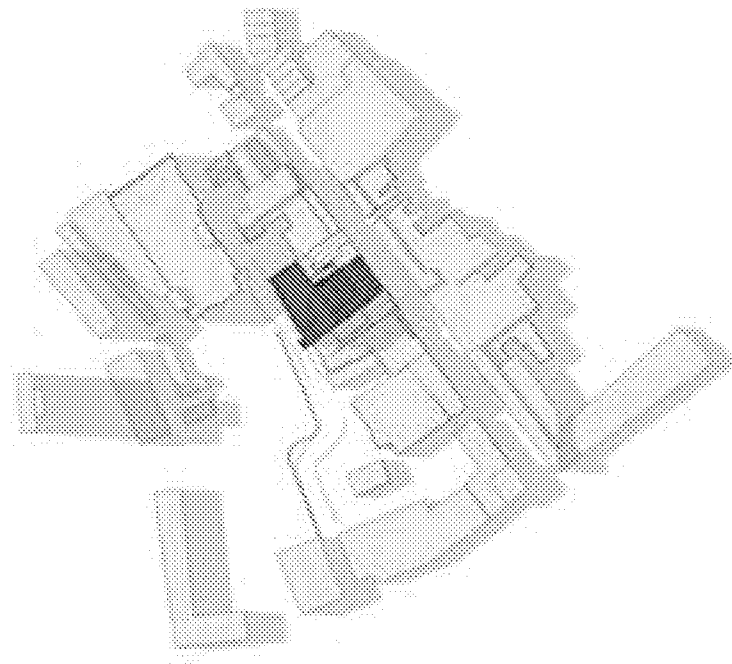
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Existing

3.14 21 June 2018
17:00

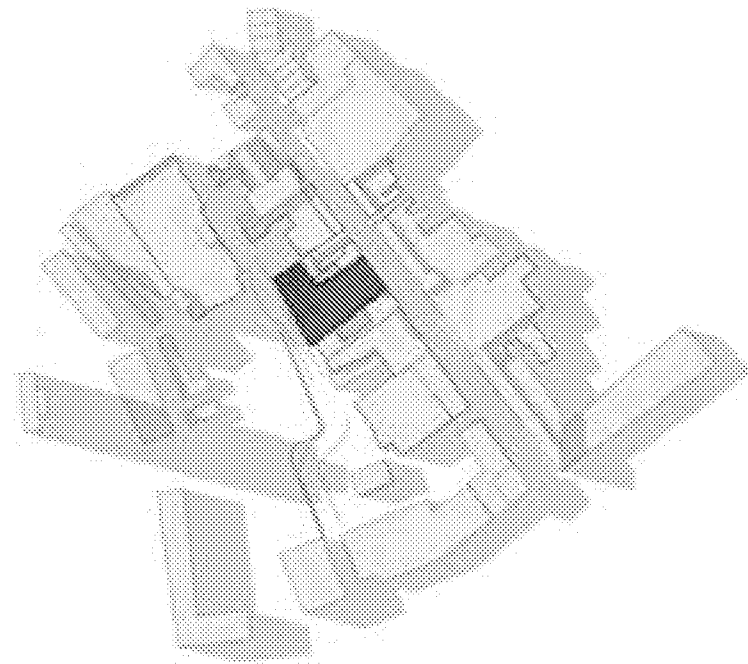
London Road is almost entirely cast in shade. Morrison's now casts shade along almost half of Bedford Street. The proposed development casts no discernible shadow into London Road beyond those already cast by existing buildings.



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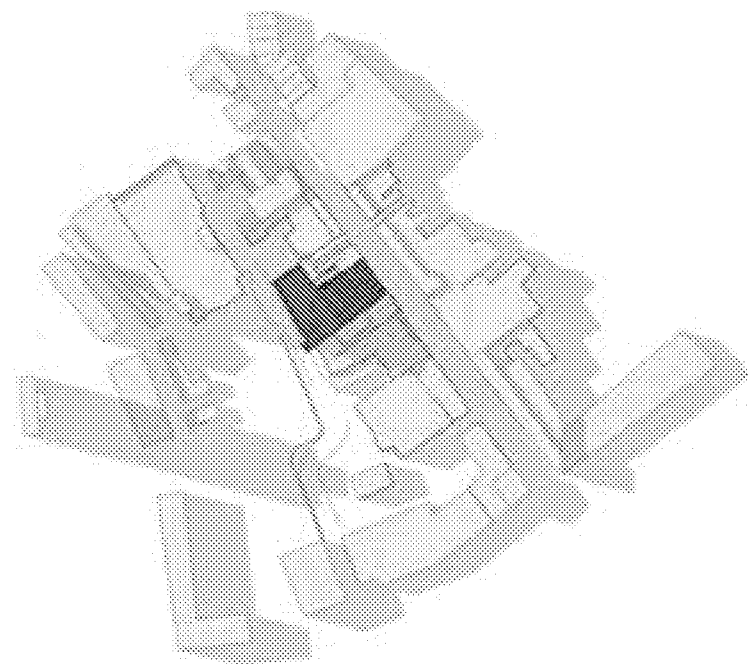
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Existing

3.15 21 June 2018
18:00

London Road is entirely cast in shade. Bedford Street car park begins getting darker. The Proposed Development casts shadow into London Road but it is indiscernible from the existing shadow.

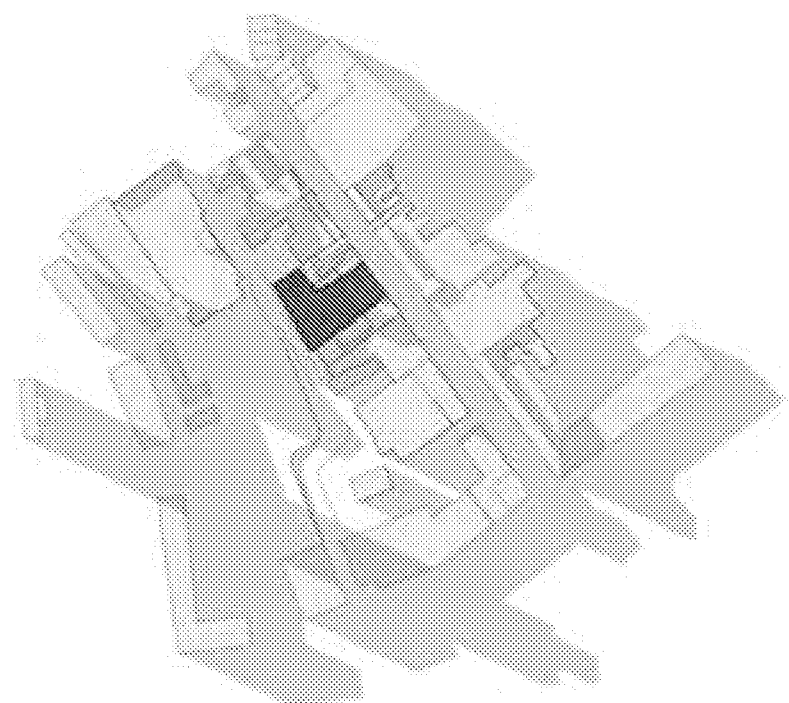


Proposed Development

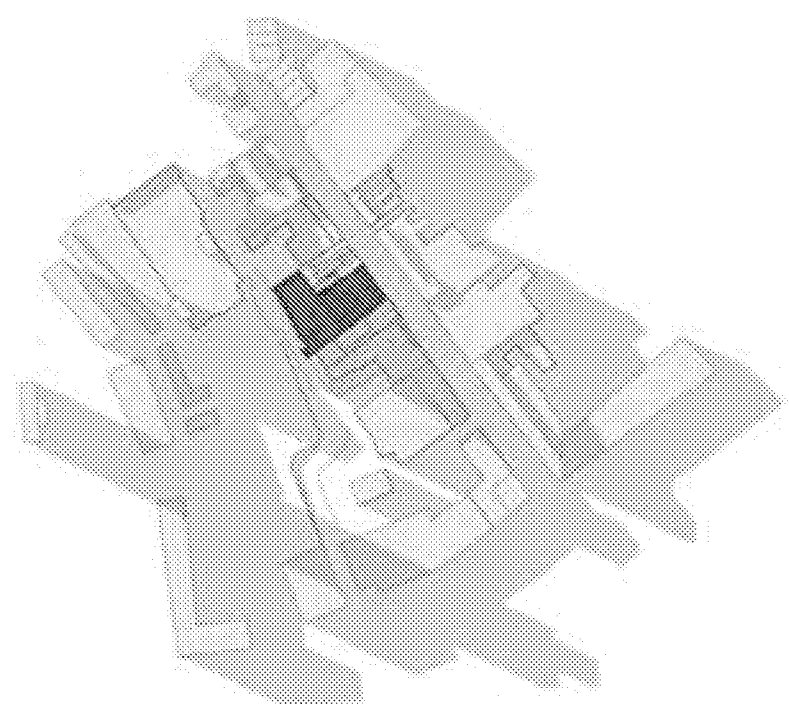
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As sunset approaches, many local rooftops begin to get over-shadowed by adjacent properties. Morrison's casts shadows over much of the Bedford Street car park and the Proposed Development casts over the adjacent roofs to the South.



Existing



Proposed Development

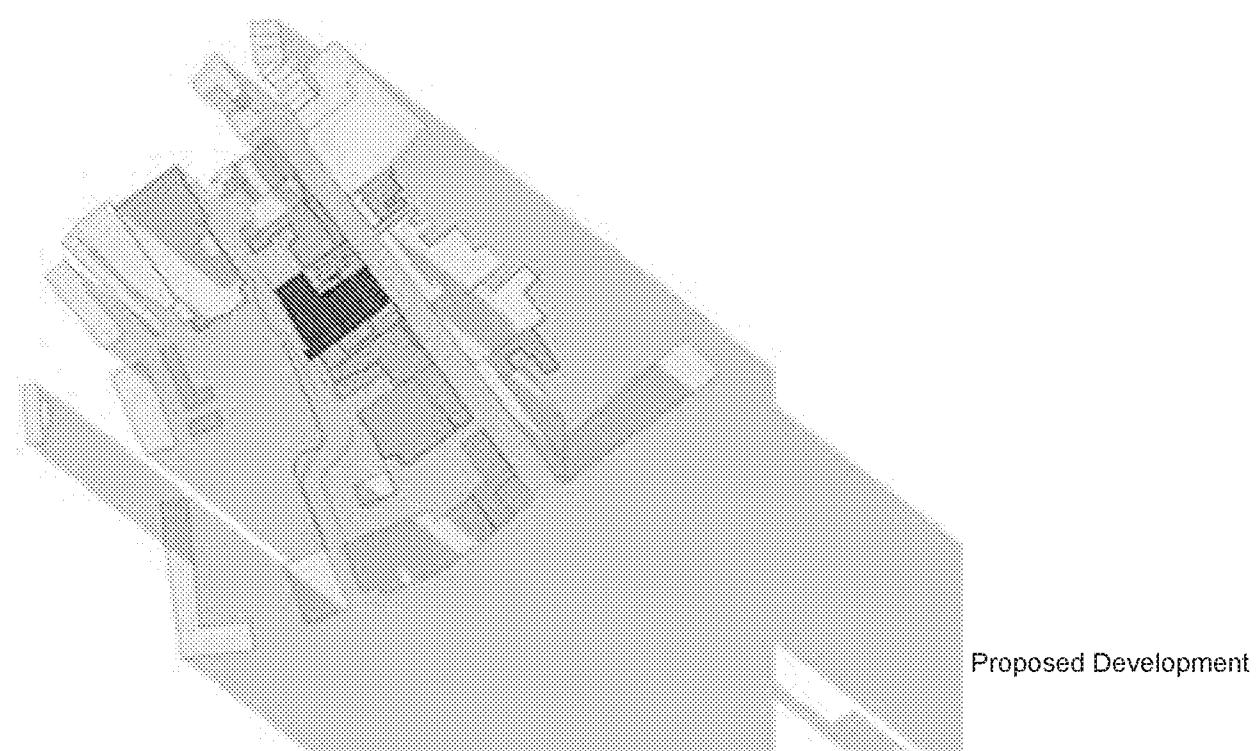
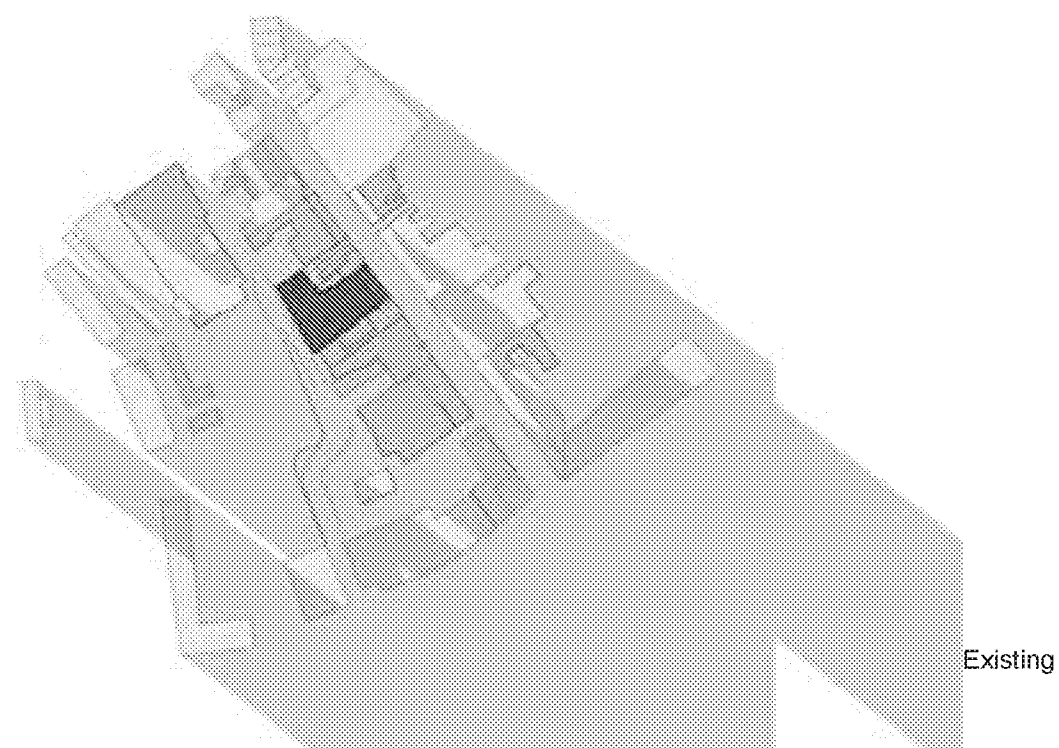
Cover Storey

A r c h i t e c t s

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3.17 21 June 2018
20:00

Sunset occurs at 20:16 and with only the tallest buildings receiving the last of the sunlight.



Cover Storey
A r c h i t e c t s

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